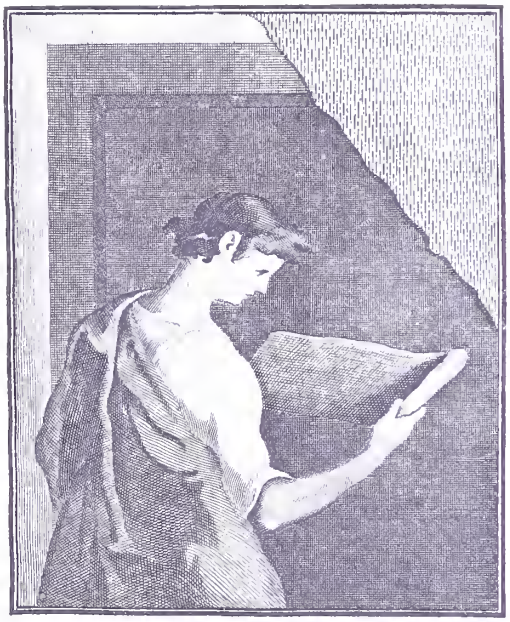

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THE ARCHITECTURAL JOURNAL

BEING THE JOURNAL OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VOL. IX. THIRD SERIES, 1902

⁂

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THOMAS EDWARD COLLCUTT.

ROYAL GOLD MEDALLIST 1902.

Yours faithfully
Thos. E. Collcutt

JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

NOVEMBER 1901—OCTOBER 1902

THE·ROYAL·INSTITVTE·OF·BRITISH·ARCHITECTS·1834
INCORP.
1837
1887
VSVI CIVIVM·DECORI VRBIVM

VOLUME IX. THIRD SERIES

LONDON
No. 9, CONDUIT STREET, HANOVER SQUARE, W.
1902

Printed by Spottiswoode & Co. Ltd., New-street Square, London.

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Royal Society—Proceedings. 8o. Lond. 1901–1902

Sanitary Institute.—Journal. 8o. Lond. 1901–1902

Society of Antiquaries—Archæologia. Vol. lvii. part 2. la. 4o. Lond. 1901

———————— Proceedings. 8o. Lond. 1901

LONDON (*cont.*)—Society of Architects—Journal. 4o. Lond. 1901–1902

Society of Arts.—Journal. 8o. Lond. 1901–1902

Society of Biblical Archæology.—Proceedings. 8o. Lond. 1901–1902

Society of Engineers—Transactions. la. 8o. Lond. 1901

Society of Medical Officers of Health—Public Health. 4o. Lond. 1901–1902

Society for the Promotion of Hellenic Studies—Journal. sm. fo. Lond. 1901–1902

Surveyors' Institution—Transactions. 8o. Lond. 1901–1902

LYON—Association Provinciale des Architectes Français—Bulletin. fo. Lyon 1902

MANCHESTER—Literary & Philosophical Society—Memoirs & proceedings. 8o. Manch. 1901–1902

MONTREAL—Canadian Society of Civil Engineers—Transactions. la. 8o. Montreal 1901

NEWCASTLE-ON-TYNE—North of England Institute of Mining & Mechanical Engineers—Transactions. la. 8o. Newc.-on-Tyne 1901–1902

Northern Architectural Association—President's address. 8o. Newc. 1901

PARIS—Société Centrale des Architectes—Annuaire. pam. 8o. Paris 1902

———————— L'Architecture. fo. Paris 1901–1902

École Spéciale d'Architecture—Séance d'ouverture. 8o. Paris 1901

ROME—Commissione Archeologica Comunale—Bullettino. la. 8o. Rome 1902

British School—Papers. Vol. i. 4o. Lond. 1902

ST. PETERSBURG—Société Impériale des Architectes—L'Architecte. Vol. xxx. fo. St. Petersburg 1901

SHEFFIELD—Society of Architects & Surveyors—Annual Report. 8o. Sheffield 1901

SYDNEY, N.S.W.—Institute of Architecture—Report. 8o. Sydney 1901

TORONTO—Ontario Association of Architects—Proceedings. 8o. Toronto 1901

VIENNA—Österreichischer, Ingenieur- u. Architekten-Verein—Zeitschrift. la. 4o. Vienna 1901–1902

WASHINGTON—American Institute of Architects—Quarterly Bulletin. 4o. Washington 1902

Proceedings of 35th Annual Convention. 4o. Washington 1901

Architectural Club—Annual Exhibition. 4o. Washington 1901

WOLVERHAMPTON. Architectural Association—Constitution and rules. 8o. Wolverhampton 1901

UNWIN (T. FISHER) the Publisher—TUYN (W. J.) & OTHERS—Old Dutch towns and villages of the Zuider Zee. 4o. Lond. 1901

VARGAS (Don E. M. R. y) *Hon. Corr. M.*—Proyecto de Casa Consistorial para Valladolid. pam. fo. —— 1898

Proyecto de Basilica y Santa Teresa de Jesús en Alba de Tormes. pam. fo. Salamanca 1900

WAGNER (O.) *Hon. Corr. M.*—Moderne Architektur (3rd part). 8o. Vienna 1902

WILSON (F. P.) the Publisher—SKRIMSHIRE (S.)—Land-surveying; its theory and practice. 8o. Lond. 1901

WIMPERIS (E. W.) *Associate*—Plan of London and Westminster. fo. Lond. 1793–99

TOTAL: VOLUMES (*exclusive of Periodicals, Reports, and Transactions of Societies, and Parts of Works issued in a serial form now in progress*), 62; PAMPHLETS, 32.

MEDALS.

CITY OF LONDON—

In commemoration of the raising and equipment of the City of London Imperial Volunteers and their service in South Africa 1899–1900:

Obv.: Heralds with trumpets calling up volunteers: medal surrounded by branches of oak entwined with a ribbon bearing the names of the principal engagements in which the C.I.V. took part.
Rev.: Radiant sun of British Empire shines behind hill surmounted by a staff flying the Union Jack and C.I.V. flag. (*Bronze*)

Presented by the Corporation of the City of London.

EXETER—
Obv.: Exeter meat and corn market: founded by the Chamber 1835. C. Fowler, architect.
Rev.: Wreath and regalia; city arms: inscrip. completed by the Council of Exeter 1837. (*Bronze*)

Presented by Charles Fowler [*Fellow*].

PURCHASES.

Books, Pamphlets, &c.

ALLGEMEINE BAUZEITUNG (*in progress*). fo. Vienna 1901–02
AUSTIN (E.)—Law relating to factories and workshops, including laundries, docks, and bakehouses. 8o. Lond. 1901
BAUDOT (A. de) & PERRAULT-DABOT (A.)—Monuments historiques. Vol. iv. Parts xv.–xvi. fo. Paris 1902
BENHAM (W.) & WELCH (C.)—Mediæval London. la. 8o. Lond. 1901
BOCK (W. de)—Matériaux pour servir à l'archéologie de l'Égypte chrétienne. 2 vols. Text and plates. ob. fo. St. Petersburg 1901
BRITISH MUSEUM—Guide to the department of Greek and Roman antiquities. 8o. Lond. 1899
Sculptures of the Parthenon. sm. 8o. Lond. 1900
Mausoleum and sculptures of Halicarnassos and Prienè. sm. 8o. Lond. 1900
Guide to Babylonian and Assyrian antiquities. 8o. Lond. 1900
Waddesdon Bequest: collection of jewels, plates, and other works of art bequeathed by Baron Rothschild. 8o. Lond. 1899
CHARNOCK (G. F.)—Exercises in graphic statics, with examples of its application to practical designing of constructional ironwork. 2 vols. ob. 8o. Manch. 1899–1900
CHRISTOPHE (P.)—Le Béton Armé et ses applications. 8o. Paris 1902
CROUCH (J.) & BUTLER (E.)—Churches, Mission Halls and Schools for Nonconformists. 4o. Birmingham 1901
DUTERT (F.)—Le Forum Romain et les forums de Jules César, d'Auguste, de Vespasien, de Nerva et de Trajan. 8o. Paris 1876
ENLART (C.)—Manuel d'archéologie française depuis les temps Mérovingiens jusqu'à la renaissance: architecture religieuse. 8o. Paris 1902
FALB (R.)—Il Taccuino Senese di Giuliano Da San Gallo: 50 Facsimili di disegni d' architettura, scultura ed arte applicata. ob. fo. Siena 1902
FEASEY (H. J.) & MICKLETHWAITE (J. T.)—Westminster Abbey. 4o. Lond. 1899
FÖRSTER (E.)—Monuments d'architecture, de sculpture et de peinture de l'Allemagne depuis l'établissement du Christianisme jusqu'aux temps modernes. 8 vols. fo. Paris 1859–66
FREEMAN (L. J.)—Italian sculpture of the renaissance. 8o. Lond. 1901
GAZETTE DES BEAUX-ARTS (*in progress*). 8o. Paris 1901–02
GRAHAM (ALEXANDER) *Fellow*—Roman Africa: an outline of the history of the Roman occupation of North Africa, based chiefly upon inscriptions and monumental remains in that country. la. 8o. Lond. 1902
HIS (E.)—Dessins d'ornements de Hans Holbein. fo. Paris 1886
HOPE (W. H. ST. JOHN)—Stall plates of the knights of the Order of the Garter 1348–1485. fo. Lond. 1901
KUTSCHMANN (T.)—Meisterwerke Saracenisch-Normannischer Kunst in Sicilien und Unteritalien. fo. Berlin [1901]
LANCIANI (R.)—Destruction of ancient Rome. 8o. Lond. 1901
LONDON TOPOGRAPHICAL SOCIETY—Illustrated Record. Series 1–3. 4o. Lond. 1898–1900
MARTHA (J.)—L'art étrusque. la. 8o. Paris 1889
MONCRIEFF (G. K. SCOTT)—Principles of structural design. 2 vols. 8o. Chatham 1897–98
NICHOLS (F. M.)—The marvels of Rome (*trans.* Mirabilia vrbis Romæ). 8o. Lond. 1889
ODRZYWOLSKI (S.)—Die Renaissance in Polen: Kunstdenkmale des xvi. und xvii. Jahrhunderts. fo. Vienna 1899
PAULIN (E.)—Thermes de Dioclétien. fo. Paris 1877
TOLHAUSEN (A. & L.)—Technological Dictionary in the English, German and French languages. 3 vols. sm. 8o. Lond. 1883
TRIGGS (H. INIGO)—Formal gardens in England and Scotland. Pts. i. & ii. (*In progress.*) fo. Lond. 1901–2
VULLIÉTY (H.)—La Suisse à travers les âges. 4o. Basle 1902
WALTERS (F. R.)—Sanatoria for consumptives. 8o. Lond. 1901
WHEELWRIGHT (E. M.)—School architecture. 4o. Boston 1901
WRIGHT (S.)—Fixtures: law and practice. 2nd ed. 8o. Lond. 1897

Total: Volumes (*Exclusive of Periodicals and Parts of Works issued in a serial form now in progress*), 47.

THE LOAN LIBRARY.

PURCHASED.

BAILEY-DENTON (E.)—Water supply and sewerage of country mansions and estates. 8o. Lond. 1901
BARNARD (F. P.)—Companion to English history (middle ages). 8o. Oxford 1902
BARWISE (S.)—Bacterial purification of sewage. la. 8o. Lond. 1901
BLOMFIELD (R.)—Short history of Renaissance architecture in England, 1500–1800. 8o. Lond. 1900
BRITISH MUSEUM—Waddesdon Bequest: collection of jewels, plate and other works of art bequeathed by Baron Rothschild. 8o. Lond. 1899
BUMPUS (T. F.)—Summer holidays among the glories of France: her cathedrals and churches. la. 8o. Lond. 1901
BYRNE (A. T.)—Inspection of the materials and workmanship employed in construction. sm. 8o. N. York 1901
CAMPIN (F.)—Constructional iron and steel work. sm. 8o. Lond. 1896
Iron and steel bridges and viaducts. sm. 8o. Lond. 1898
CHARNOCK (G. F)—Graphic statics. 2 vols. ob. 8o. Manch. 1899–1900
COLLING (J. K.)—Details of Gothic architecture. 2 vols. 4o. Lond. ——
CRAGG (A. R.) & MARCHANT (J. R. N.)—Hints to young valuers: a treatise on the valuation of property. 8o. Lond. 1901
CURTIS (C. E.)—Practical forestry and its bearing on the improvement of estates. 2nd ed. 8o. Lond. 1898
CUST (R. H. H.)—Pavement masters of Siena (1369–1562). 8o. Lond. 1901
DANIELS (G. ST. L.)—Leases. 8o. Lond. 1895

ELLIS (G.)—Modern practical joinery. la. 8o. Lond. 1902

FARROW (F. R.)—Stresses and strains: their calculation and that of their resistance by formula and graphic methods. 8o. Lond. 1900

FLETCHER (B.)—Dilapidations. 5th ed. 8o. Lond. 1899

London Building Acts 1894–98. 8o. Lond. 1901

FLETCHER (B. & B. F.)—History of architecture. 4th ed. 8o. Lond. 1901

GOTCH (J. A.)—Early Renaissance architecture in England. la. 8o. Lond. 1901

GREENWELL (A.) & ELSDEN (J. V.)—Roads: their construction and maintenance. 8o. Lond. 1901

GWILT (J.)—Encyclopædia of architecture. 8o. Lond. 1899

HAMLIN (A. D. F.)—History of architecture. 8o. N. York 1900

HATTON (R. G.)—Perspective for art students. 8o. Lond. 1902

HOLDSWORTH (W. A.)—Law of landlord and tenant. sm. 8o. Lond. 1889

HURRELL (J. W.)—Measured drawings of old oak English furniture, remains of architectural woodwork, plasterwork, metal-work, &c. fo. Lond. 1902

INNES (L. C.)—Law of easements. 6th ed. 8o. Lond. 1900

LETCHWORTH (W. P.)—Care and treatment of epileptics. la. 8o. Lond. 1900

MACEY (F. W.)—Conditions of contract relating to building works. la. 8o. Lond. 1902

MARKS (P. L.)—Principles of planning. 8o. Lond. 1901

MAUCH (J. M. v.)—Die architektonischen Ordnungen der Griechen und Römer. 4o. Berlin 1896

PERKINS (T.)—Cathedral Church of Manchester and Chetham's Hospital. 8o. Lond. 1901

PRATT (R.)—Sciography. ob. 8o. Lond. 1891

PRIOR (E. S.)—History of Gothic art in England. la. 8o. Lond. 1900

RICHARDS (H. W.)—Brick-laying and brick-cutting. 8o. Lond. 1901

SCHWARZ (O.)—Abattoirs and cattle-markets, *translated* by Harrap (G. T.) & Douglas (L. M.) la. 8o. Lond. 1901

SCIENCE & ART DEPARTMENT, S. KENSINGTON—Notes on building construction. 4 vols. la. 8o. Lond. 1899–1901

SCOTT (LEADER)—Brunellesco. 8o. Lond. 1901

SKRIMSHIRE (S.)—Land-surveying: its theory and practice. 8o. Lond. 1901

SMITH (P. GORDON)—Planning of Poor Law buildings. la. 8o. Lond. 1901

SMITH (T. R.)—Architecture: Gothic and Renaissance. 8o. Lond. —.

SMITH (T. R.) & SLATER (J.)—Architecture: Classic and Early Christian. 8o. Lond. 1898

SPIERS (R. P.)—Architectural drawing. 4o. Lond. 1902

STATHAM (H. H.)—Architecture for general readers. 2nd ed. 8o. Lond. 1896

STEWART (C. J.)—Housing question in London. la. 8o. Lond. [1901]

SUTCLIFFE (G. L.)—Sanitary fittings and plumbing. 8o. Lond. 1901

SWEETING (W. D.)—Cathedral church of Ely. 8o. Lond. 1901

SYKES (J. F. J.)—Public health and housing. 8o. Lond. 1901

TOMPKINS (H. W.) & GRIGGS (F. L.)—Highways of Hertfordshire. 8o. Lond. 1902

TRIGGS (H. I.)—Formal gardens in England. Pts. i. and ii. fo. Lond. 1902

WALTERS (F. R.) Sanatoria for consumptives. 8o. Lond. 1901

Total: Volumes, 56.

PRESENTED.

ARCHITECTURAL ASSOCIATION—Lever (W. H.)—Buildings erected at Port Sunlight and Thornton Hough. 4o. Lond. 1902

Total: Volume, 1.

JOURNAL
OF
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

SESSION 1901–1902.

THE OPENING ADDRESS. Delivered by the President, Mr. William Emerson, at the First General Meeting, Monday, 4th November 1901.

Colleagues and Gentlemen,—

I HAD occasion, in my two former Addresses from this Chair, to take a retrospective view in the one of the architecture of the past century, and in the second to consider what might be the state of our art during the coming century. This year I shall but glance at certain current points which seem to me either important or of interest.

First, as to the increase of the numbers and influence of the Institute. Our numbers, I am happy to say, maintain a steady increase, and each year more candidates present themselves for examination than on previous occasions. We have, in fact, some seventeen hundred actual members of the Royal Institute of British Architects—or over three thousand members, counting those of Societies in alliance with us. There are also some fifteen hundred Probationers, and more than four hundred Students, which is some proof of the value set on the Institute examinations and the trend towards improvement in the education of architects. I think this speaks very well for our increasing prosperity, so far as it can be told by figures. Unfortunately, though our numbers steadily increase, death has recently made dreadful inroads on our members, for since this time last year we have lost twenty-one Fellows and five Associates. It is sad to find that amongst this number have been some of the greatest and most honoured names. The roll includes Barry, Burnet, Brydon, Brooks, Cates, and Young; and many of the number were carried off while in the prime of manhood and busy in harness—two of them just as they had achieved the honour of being appointed to design and carry out two of our greatest public buildings. Truly we must feel that in the midst of life we are in death. Their loss we all deeply deplore.

That the influence of the Institute is growing and not waning is shown by the number of instances in which it continues to be appealed to on architectural questions by public and other bodies, both in the metropolis and provinces, and by the number of congresses and other meetings to which we are asked to send representatives and invited to express our views. There can be no doubt that if the Institute would only let its voice be heard on important points in respect to architectural questions as they arise, whether they be metropolitan improvements or other important schemes, we should, and ought to, gradually become the guiding spirit in such matters.

While touching on this point of metropolitan improvements and large architectural questions, I suggested last year the advisability of some more organised system of control over design. Whether it be by a Ministry of Fine Arts, as proposed by me, or by a Royal Commission, as has been suggested since both by the President of the Royal Academy and Lord Wemyss, is of little moment so long as the responsibility be fixed. The discussions and very varied opinions expressed in *The Times* and other journals on such a question by writers qualified or unqualified to judge seem proof of the evident necessity for some such organisation. In America, at Washington, the same suggestion is being urged on the Government.

It has been stated that the widening of Piccadilly was only a part of a large improvement scheme for that particular approach to the City from Kensington, in which the taking down and rebuilding of Walsingham House would afford an opportunity for a move in that direction. Whether this is so I have no knowledge; but the question I would ask is, Why deal with only one small portion of London at a time? The whole question of the rebuilding of London, enormously difficult as it may be or huge the expense it may involve, ought now, without further delay, to be considered. Definite improvements and building lines should be laid down in all important directions, and all buildings pulled down and rebuilt or altered in the future should be obliged to conform to the scheme. It would mean increased expense to the ratepayers as each portion of ground was taken by the authorities for the widening or improvement of the thoroughfares; but it would be a gradual work, and, though slowly, London would at length be rebuilt on a properly considered plan, instead of an improvement here or a widening there being effected without relation to any well-considered inclusive scheme covering the whole problem.

I would reiterate what I said last year as to the necessity for providing subways to avoid the constant taking up of the roads. I am glad to see that five parishes have raised an indignant protest against the ever-recurring interruption to traffic by street excavations, and that the attention of the London County Council has been drawn to the matter.

Since writing the above, I see in this morning's *Times* that the Highways Committee of the London County Council will submit at the next meeting of the Council a report advocating the construction of a system of shallow underground tramways in London, with subways for pipes, wires, &c., on each side of the tramway subway, and that the experiment should be initiated in the new thoroughfare in course of construction between Holborn and the Strand. This is a step on a most important matter quite in the right direction.

The consideration of the questions of the insanitary effect of large areas overcrowded by a dense population in flats, the shutting out of sun and air, arcades over footpaths, railway works in the metropolis, sites for workmen's dwellings, &c.—these are a few of the many questions entering into any scheme of improvement, as well as the embellishment of the metropolis by its public buildings, and they should be dealt with by such a Ministry or Commission as that suggested. If we do not wish future generations to hold us up to scorn and blame us for our culpable apathy, it is time that Parliament took some step in the direction indicated.

I must again this year refer to the question of Competitions. A great deal has been written of late in some of the journals on the subject of Assessorships in Competitions, and evidently without knowledge of the truth of the matter or troubling to ascertain it.

The suggestion has been that the blame of the dissatisfaction so constantly arising as to awards lies at the door of the President or Council of the Institute for not having exercised sufficient care in the selection of assessors. I have therefore had a list made of the competitions held since July 1899 up to September last, with the assessors' names and the results —that is to say, as to whether there has been any expression of dissatisfaction in regard to their awards—and the following is what I find to be the case.

There have been during this period, so far as I can find out, ninety-seven competitions held in all parts of the country and metropolis. Out of this number there were seventy-three in which the authorities chose their own assessors, or, at any rate, did not apply to the Institute to name one. Out of these seventy-three the assessors' awards were set aside and dissatisfaction was expressed in twelve cases, or, practically, one in every six competitions. In the remaining twenty-four the President of the Royal Institute of British Architects, or the Council in a few instances, nominated the assessors, and in not a single instance was the award of these assessors set aside, nor can I find that any expression of dissatisfaction arose at their awards. There was only one case in these twenty-four where any unpleasantness at all arose, and that was solely on the part of one person out of sixty-two competitors for the same subject, because a certain alteration had been made in the conditions by the assessor, who was appointed a week or two after those conditions had been issued by the authorities. As it apparently made no difference to sixty-one out of sixty-two competitors, it could not have been of serious importance, and there was no dissatisfaction expressed at the assessor's award.

I think this proves how ready some even of our own members are to blame either the management or the officials of the Institute when they do not even know the facts about which they are writing or talking. A little more loyalty and real honest endeavour to serve the ends for which we are all supposed to be united and working would be more to the point, and assist materially the work of the Institute for the good of our art and the profession at large. And on this I must quote and adopt some words of Mr. Peabody's in his Address to the American Institute:—"We can only measure the amount of good the Institute has done by its output. Many a man who cares little for it benefits because others have cared. Many a man outside of our numbers is more respected in his community and has a more certain livelihood because the Institute has proved itself a reasonable public body. Certainly, through its influence, the perils and hardships of competitions have been greatly mitigated. But all these are small and selfish ends. The real value of the Institute lies in its opportunities, in its openings for useful work and mutual high endeavour. Thanks to the wisdom of its founders, I think it has been a potent means of good. Thanks to them, it has none of the features of a selfish trade union. In a trade union a man's powers and skill are handicapped for the general good; but with us a member has entered into no engagements of any kind except that he will honourably practise his profession."

The examination of the result of the enormous number of competitions in a couple of years only is enough, I should think, to deter most men in the profession from taking part in them; but if not—and we choose to have it so—we should bear in mind that in every competition the larger proportion of the competitors must naturally feel disappointed, as there can only be one winner; and if a man does not care to take this risk he should not compete. As I said last year, one can only endeavour to nominate the right man as assessor; but even he is hardly likely, however level-headed, careful, and just in his perceptions he may be, to please everyone. Anyhow, if the public continue to lay the burden of competition on the profession, and we prefer to bear this burden of enforced gambling, then at least let us be fair amongst ourselves, and insist that nothing shall upset the principle we have long ago laid down—that when a duly qualified assessor has been appointed, and has selected a particular design, the author of that design shall, unless there be some very special reason to the contrary, be employed to carry out the work. Otherwise we are simply playing into the hands of an unscrupulous public, prepared to take every advantage of our time, talents, and money. Even should the assessor happen to make an award that does not commend itself to all, it will certainly be better for the profession in the long run that the award be upheld than that each dissatisfied competitor should endeavour to upset it. Our only safeguard is loyally to uphold this principle.

Our Congress last year gave rise to a most interesting discussion on bridge design, by the courtesy of the Civil Engineers, at their institution. Whether it may bear fruit in the more intimate relations of the engineer and architect on the question of monumental bridges in the metropolis and provincial towns remains to be seen. The architectural effect of bridges must be the outcome of the construction at the inception of the design, and can scarcely be added as a dressing afterwards with advantage. It can, therefore, only be satisfactorily accomplished if engineers and architects would be willing to consult with each other at the commencement of any such scheme. Unless this be done, as the aim of the engineer is necessarily and properly, from his point of view, to construct in a purely scientific manner, usually omitting all that would add unnecessary weight or cost, the more such a purely engineering scheme is developed the more hopelessly ugly it usually becomes. The only way out of the difficulty appears to be for architects to study the subject of engineering for such schemes themselves, and, when opportunity offers, put forward their own views. Certainly, progress in the beauty of monumental bridge treatment may be made, if the designer will only remember at the outset that every idea in the design should be suggested by the construction, and that any ornamentation added for mere caprice certainly defeats its own object, if that object be the mere adding of unnecessary features as ornament to an already logical construction. Such friendly discussions as these between kindred professions cannot do otherwise than help in the appreciation of architecture as appertaining to engineering, and clinching the theory that architecture and engineering should go hand in hand as helpmeets the one to the other.

In speaking last November, from this Chair, of the problems that the architecture of this century is likely to have to solve, I mentioned as one the planning of large churches to meet the needs of modern congregations, with a view to avoid the blocking of the central portions of churches in the mediæval manner of our Gothic cathedrals. I wish to-day to go a step farther on this point, though I do so with some diffidence, because any suggestion of alteration in our accustomed church or cathedral arrangements is looked on by many as almost heretical; but what I may say, is with a view possibly to induce, at some later date, a discussion on the point I am going to raise—namely, that of bringing altars forward, nearer to the congregations than is possible with the present arrangement of deep chancels and choirs. Such a discussion might be very interesting and instructive from the architectural side of church arrangement, as well as in relation to the question of congregational worship in our larger churches.

In 1884 I wrote in one of the building journals some thoughts on church planning, the object of which was to show that the common fourteenth-century plan, with the crossing blocked by large piers and the enclosed choirs in the centre of the church, though well adapted for the mediæval and monastic times, is quite unsuited to modern worship in the nineteenth century. This view now seems generally accepted; but further than this, the fervent spirit that has developed itself under the Church revival of late years renders it necessary that the large congregations should be able both to hear and see all parts of the services for full participation in them.

Beresford Hope, in his *Worship and Order* (written many years before his death, but still, I am assured, expressing his latest views, for he presented copies of this book to friends shortly before he died), says:

> "I tell the man who wants to build a church, which shall be at once useful and beautiful, to forecast that church in his mind's eye, to forecast it at work—full of worshippers joining in the 'Te Deum,' upon their knees at the Holy Communion, of worshippers listening to the evening services. Let him guess, as he only can, by such a glance how everyone can hear and everyone can see. Let him notice where his light falls, and where it is darkness, and in particular let him make sure that the altar and its adjuncts stand well forward, and are not lost in the obscurity of some unlucky shadow. There is no reason, beyond the prejudice which such a novelty might excite, why at times one should not construct a circular or polygonal nave. The nave of the Temple Church is precedent enough, and the glorious decagon of St. Gereon at Cologne would hold a goodly multitude. There are no more congregational naves anywhere than the octagon at Ely and the dome of St. Paul's."

All which means that what is wanted now, and much more now than when the above words were written, is a large open space for worshippers, with the altar brought well forward, and not buried in the depths of a lengthy chancel or choir, as in the case of the fourteenth-century English cathedrals, of which type the new one at Truro is a modern representative, and, however good in its architecture, is simply an anachronism.

Tradition and conservatism are well in their way, but should not go the length of hampering modern requirements with obsolete arrangements made for the benefit of colleges of monks, and not for the people. The desirability of a good open space for congregational purposes is now by most thoughtful minds generally conceded. The point I would suggest for reflection is the possibility and propriety of a further advance in increasing the facilities of large congregations for seeing and hearing, and participation in those parts of the services conducted at the altar, by an alteration in its position, which might, while being a step in advance towards meeting modern congregational wants, possibly also be found to be in a measure almost a return to early usage. In a modern cathedral, say, for argument's sake, the choir must contain stalls and seats for seventy to one hundred persons, with proper space for altar communicants and steps. The length would be at least 100 or 120 feet, and though this is considerably less than the depth of many mediæval churches, it nevertheless removes the east end of the sanctuary so far from the nearest members of the congregation that it becomes practically impossible for them as a body to see or hear the services conducted at the altar.

The question I ask is, conceded the open space in the centre of a large church, why should we not consider the advisability in the future of altering the arrangement of our choirs and placing the altar at the entrance to the choir instead of at the east end, with the clergy, choir, and bishop's throne behind the altar? To see if there is any reason in such a suggestion let us look back at some points in the history of church planning.

The seats for the clergy being situated behind the altar is a far older arrangement than the position assigned to them in the mediæval and monastic times. It existed at first in some of our own early cathedrals, as you all know—at Norwich and Canterbury, for instance. I believe I am right in stating that the view of the Anglican party in the Church is that their rules, doctrines, and worship are intended to be in accordance with those of the earlier Church, and go back to the time before the Bishops of Rome established the Roman Church as the chief of all the churches and arrogated to themselves the position of supreme head as Pope or Father. Now at this early period it is certain that the arrangements in the Christian churches provided for the altar being immediately in front of the congregation, and the seats for those who officiated at the various offices and at the altar being behind it. It is interesting to note how the earlier arrangements developed and were altered to meet the requirements of various times, and peoples, and changes of thought.

Let us glance broadly at the various alterations that have occurred. In the early basilican arrangement, as in old St. Peter's at Rome and St. Paul's without the walls, St. Apollinare at Ravenna, St. Clemente at Rome, both in the ancient and lower, and the later or upper churches, and later also at St. Ambrosio at Milan, Sta. Maria Maggiore at Rome, also at Torcello and Parenzo, and in the Armenian Church of Pitzounda, in the Coptic churches, and, as before mentioned, in Canterbury and Norwich, and also at the little early church of Deerhurst, it was evidently thought desirable that no great distance should intervene between the congregation and the altar, and for this reason no doubt it was placed in front of the Bema, thus bringing it in close proximity to the worshippers.

In those days the form of worship was comparatively simple, and the officiating clergy, who probably acted as cantores also, were seated behind the altar, their seats being ranged around the Bema, with the bishop's throne in the centre, and the worshippers evidently took full part as well as the clergy in the ceremony of Divine worship.

These altars, it is true, faced the reverse way to ours, and the priest officiated standing behind the altar facing the people and the east. Now both priest and congregation in our churches usually face eastwards or towards Jerusalem, perhaps originated by Solomon's prayer at the dedication of the Temple, though other reasons are more usually given for the custom. Some few centuries later, when, in consequence of the holy mystery of the Divine Sacrifice being more prominently suggested in the church arrangements, indicated by the veiled altars, the ritual had extended and comprised more ceremonial, and more attention was paid to music, the addition of a chorus cantorum or choir was made, intervening between the altar and the congregation and jutting into the nave. The clergy still occupied the same position behind the altar during the missa and officium divinum, but subsequently those in holy orders, as well as the cantores, occupied the lower portion of the choir during the officium divinum, and those only actively engaged in the missa occupied the Bema.

One evident reason of the choir being thus brought forward into the nave between the altar and the congregation in the basilican churches, as in the upper church of San Clemente and others, seems likely to have been, that had the increased number of singers been placed, like the priests, behind the altar, it would have necessitated in such a plan the position of the altar being moved some bays down the church, towards the centre of the nave, by which arrangement many of the worshippers in the large aisles would have found themselves during the missa behind the altar and the officiating priest, instead of in front.

It seems to me there could have been no other logical reason for the departure from the first method of arrangement, which brought the altar in greater proximity to the congregation; and from this departure by gradual steps our mediæval choirs were evolved, resulting eventually in the abbey churches in the entire shutting off of the altar, clergy, brotherhoods, and choirs from the congregations by the elaborate screens even now remaining in many churches both here and abroad.

The more exalted ritual, with its greater suggestiveness of the importance of and reverence for the holy mysteries, aided by other Roman doctrines, seems to have led to the screening off of all those engaged in the service of the church from the congregations by the veiling of the altars, as in the Coptic and Eastern churches, by the iconostasis or solid screen which separated the altar from the choir, and also a further and more open screen which again separated the choir from the congregation. Instances of both these arrangements are found—of the first in the Church of Abu Sargah and the old Coptic churches of Egypt at old

Cairo, in Russia and Armenia; and of the second in the upper church of San Clemente at Rome, and other early churches, and at Torcello; and possibly some such similar arrangement was adopted at old Canterbury and Norwich, and the little ancient church of Deerhurst.

Again, later on in mediæval times, when civilised but pagan Rome had fallen, and education for the masses had disappeared, the Church being the only light of the dark ages, and the Bishops of Rome had added worldly pomp and power to the spiritual character of their office, and claimed for themselves the title of Pope as head or Father of the Universal Church, it was to be expected that the clergy and monastic orders should have conceived it necessary, considering the strong line of demarcation they had drawn between themselves, their elevated office, and the ignorant laity, to emphasise this point in their churches by altogether enclosing for themselves and occupying the central and best part of the churches and cathedrals. This was the natural evolution of the first enclosed choirs in the Basilicas placed between the altar and the congregation, and completed by the separation of the clergy and monastic bodies from the laity. This arrangement is familiar to us all in the numerous cathedrals with the enclosed choir or pulpitum. By this plan the congregations were debarred from any prominent or general joining with the clergy in divine service or public worship, excepting in connection with the mass or services held at the altar, which it was then found necessary to place in the nave, outside the choir, or rood screen, as was the case at Lincoln and York. These altars were for the popular services. There was a great screen between the western piers of the central tower, the altar in the middle, and doors on either side. A necessity for this altar for popular or congregational services is felt at the present time in some of our cathedrals, as at Norwich, in consequence of the enclosed choirs still remaining.

In the early mediæval times, that the congregations should unite with the clergy in public worship was, judging by the arrangements then existing, apparently considered of small moment. The people were to be impressed, or perhaps improved, from a spiritual point of view; but their worship was done for them, if I may so express it, by proxy, "as in the Jewish sacrificial rites, when the priests and Levites acted alone, but with this difference, that in this case the people could not even join in the prayers and praise, as did the Jews, for the reason that the divine offices were not in the vernacular." It was when, later on, education, both religious and secular, caused an expansion of thought and feeling in the popular mind that an alteration was felt to be necessary; and it was the recognition on the part of the clergy of the necessity for the participation of the congregations in the whole of the services that caused the introduction of these second prominent nave altars in such proximity to the people that all could easily see and hear, and, at last, the holding of the services in the language of the people, as an additional aid to their heartily joining in them.

This principle of two altars is sometimes considered not in accordance with the feeling of the English Church, which it has been said is one church, one altar; but it seems to have been the outcome, first, of the desire for the separation of the clergy and choir from the congregation, and, secondly, of the basilican churches having first arranged the choirs intervening between the altar and the congregation. If the basilican churches—which, after all, were first derived from courts of justice—had had, instead of the Bema, long chancels or choirs to accommodate a large number of cantores, like the late cathedrals, is it not possible that the same relative position of the altar near the congregation would have been maintained, and the chorus cantorum have been placed behind it with the clergy, instead of in front of it? The fact that later on the nave altars outside the choir were found necessary seems, to my mind, to argue that it would have been so.

In Spain in the fifteenth century the arrangement obtained of the *coro* or choir being placed in the nave and the altar in the eastern part of the church, with the congregation intervening between the altar and the choir. A modified form of this principle of arrangement is now to be seen at Westminster Abbey; and this plan was, no doubt, also the outcome of the feeling for the necessity of the altar being not too far distant from the congregation. There are also many instances now in Italy of the choir being behind the altar; but in some of these cases the public are brought too near the altar, which seems somewhat derogatory to reverence, as in Sta. Maria del Fiore, at Florence, where the high altar was placed under the dome, and the congregation entirely surrounds it. At Sta. Maria Maggiore the altar is still at the entrance of the Bema in the nave, and the choir and stalls for priests behind it on either side of a second altar at the end of the apse or Bema; and a somewhat similar arrangement exists in the semi-Romanesque churches of Cologne and St. Gereon, thus bringing the altars in proximity to the congregations.

Does it not seem evident, from these variations at different times of the arrangements made to suit the feelings and education of the ages, that there can scarcely be said to be a hard-and-fast line drawn, or any grave law that would be broken if the present plan of accommodation of our tripartite arrangement of congregation, choir, and sacrarium, were somewhat altered to meet modern requirements, however much, in some respects, our sentiment and conservative feeling make us averse from alterations?

The present arrangement, when we consider the late earnest Anglican movement, which claims to go back in its faith and ritual to the period previous to the absolute sway and domination of the Roman Church, seems in some respects to be wanting and illogical, where, as in our larger churches and cathedrals, large choirs and numbers of clergy have to be accommodated, causing, by this plan, the altar to be removed from the congregation, say from 80 to 150 feet, and suggests the necessity for some revision in our plan which shall, as in the early times, bring the altar and the services conducted at it in closer proximity to the worshippers.

I quite feel that difficulties arise which are not easy to surmount in the suggestion of the principal altar being placed at the entrance to the choir, but I do not see that they are insurmountable. First, there must be the elevation of the choir above the nave, and then of the sacrarium and altar above the choir; but with a wide choir, and a large open space in front, I do not see that this would be impossible any more than at Sta. Maria Maggiore in Rome, or at the Duomo in Florence.

Also there is the question of a great reredos, but a canopied altar and a dossal of beautiful workmanship and precious and rare materials might be infinitely more satisfactory and in better taste than some of the large and elaborate altar-pieces of soft stone and inferior sculpture and workmanship that have been erected in many of our churches in late years. One objection, no doubt, that would be raised to such an arrangement would be, that by the present plan we are supposed by degrees to arrive at the holiest of all at the altar, which, therefore, is removed furthest from the vulgar; but the Roman Church has evidently not attached weight to this, and why should ours? A second altar might be placed at the extreme east end and used for smaller services, the bishop's throne and the choir and stalls remaining in the same relative positions as at present. With the enormous congregations our churches are now attracting, width of nave and choir and spacious interiors are a necessity, and with these, were it found advisable, this arrangement could, I imagine, be made to suit our worship as easily as the Roman Church has, in numbers of instances, made it suit theirs.

As to its advisability in regard to sentiment and conservatism, no doubt many adverse arguments could be raised; but, all the same, the question would still remain of the vita necessity for fervent worshippers being able to see and hear and join in all parts of Divine worship. The subject has been in my mind for a number of years, which must be my excuse for bringing it before you on this occasion, and, after all, it is as much an architectural question as an ecclesiastical one. At any rate, I am not the first to have proposed such a thing, and numbers besides myself are interested in the subject.

I would commend the point for consideration to any of you who may be likely to have the chance of erecting a large church or cathedral suited to modern times.

Gentlemen, this is the last time I shall have the honour of addressing you on the first day of a new Session, and I can only conclude by once again saying how greatly I feel the honour you have conferred on me and the confidence you have reposed in me by again electing me as your President, and I assure you I shall continue, as I have ever endeavoured to the best of my ability, to do all I can to further the interests of our noble art, to extend the influence of this institution, and to uphold in the highest sense, as far as I am able, the dignity of our profession. To these ends the Council are ever ready to give their unqualified aid, and I only ask you all to loyally join with us in our endeavours.

VOTE OF THANKS TO THE PRESIDENT.

Mr. J. MACVICAR ANDERSON, F.R.S.E. (*Past-President*), in proposing a vote of thanks to the President for his address, said that it was pleasing to members to hear from the head of the Institute of its prosperity both in regard to numbers and in regard to the influence which it exercised. Increase of numbers meant increase of funds; and although that was a somewhat inartistic subject, he ventured to refer to it for the purpose of again impressing upon the Council the advisability of allowing the surplus funds of the Institute to accumulate, and not to be in too great a hurry to spend them. While it was satisfactory to know that their numbers were increasing, it was sad to hear of the loss of such well known and valued members as those who had been referred to. None knew better than he did what the Institute owed to Arthur Cates, not perhaps so much as an architect or as a surveyor as for the indefatigable energy with which he had devoted his abilities to the interests of the Institute, and more particularly to the carrying out of the scheme of Examinations which had attained such remarkable success. His memory might well be held in high regard by the Institute. It was sad and pathetic to think that the two architects who after much consideration had been nominated to carry out the great Government buildings had passed to their rest. It was also sad and pathetic to think of one leading member of the profession having been laid aside for many months by serious illness. They had been accustomed to associate the name of Alfred Waterhouse with that of an architect of great power and ability, and not only so, but with that of a prodigious worker—a man of unbounded energy and restless activity. It was sad to think of him leading now a life of enforced retirement. They could but trust that it might please God to spare him yet for many years of usefulness, though perhaps not of activity, and they hoped that he might, even in enforced retirement, find that perfect rest and peace to which his active life had so well entitled him. The President had incidentally referred to the question of the widening of Piccadilly, which had recently occupied so much public attention. He (the speaker) had been more than once asked to express his views publicly upon the subject, but had refrained from doing so. It seemed to him that it was, to say the least, too soon to enter on such serious changes, and unwise to begin by widening the widest part of Piccadilly so long as the narrowest part was allowed to remain narrow. There could be no doubt that in course of time underground communications in London would come more to the front, and sooner or later some underground communication similar to that on the north side of Hyde Park would be constructed between the West End and the City. In saying this he should, of course, deplore the smallest risk being incurred of the foundations of St. Paul's Cathedral being thereby affected, and any communication of the kind must therefore be kept at a sufficient distance from the Cathedral. If it were made, and if it resulted, as had been the case on the north side of the Park, in nearly running the omnibuses off the road, the question of the widening was solved, because if the omnibuses disappeared from Piccadilly there would be ample room for the other traffic. Therefore the wise and prudent and statesmanlike course was to wait, and not to rush into expensive alterations, which in the opinion of many would ruin the appearance of Piccadilly, and might ultimately be found to have been quite unnecessary. In entering on the well-worn subject of competitions, the President had referred to them as a "burden," and, further, as a burden of "enforced gambling," expressions which met with his (the speaker's) entire approval. He had also referred to the "unscrupulousness of the public." The public had undoubtedly become unscrupulous in what they expected of architects in the way of competitions. But who was to blame for that? Not the public, but the architectural profession in his humble opinion, because no sooner was a competition announced than with great facility and readiness architects responded to the invitation. He thought architects would consult their own dignity and the welfare of the profession if they refrained from responding to these invitations. He was, he knew, singular in these opinions, but he had thought a good deal on the subject; and the older he grew the more convinced he became that they were right. The wisest thing to do was for the profession not to accept what the President called the "burden," but to leave it alone. If architects would refrain from so readily responding to invitations to compete, the question of competitions would very soon be solved. In speaking of competitions he might refer to one that had occupied a great deal of attention recently—viz. the competition for the proposed cathedral at Liverpool, which the President, with good taste, had of course refrained from referring to, as he had himself previously submitted a design for the cathedral. But he (the speaker) imagined that he might with equal good taste express his opinion upon the subject to the effect that the proper course for the Liverpool Cathedral Committee to have followed was to appoint as architect of that cathedral the present President of the Royal Institute of British Architects. Fifteen years ago a competition was held, and three eminent architects were asked to prepare designs. Mr. Ewan Christian (than whom no one possessed sounder judgment in such matters) was appointed assessor, and he, after great deliberation and care, selected the design of Mr. Emerson as the best of the three. It was true that the site had been altered and that circumstances had changed; but that appeared to be no reason whatever for setting aside all the work and thought which Mr. Emerson had bestowed upon the competition. The President had devoted the greater part of his address to a subject of very great importance, viz. the plan of our modern churches. The subject was one upon which he (the speaker) did not feel so competent to speak as many of those who were now listening to him. There could be no doubt, however, that the mediæval plan of our churches and cathedrals was not suited to the worship of the present day. At the same time one clung to the charm and attraction they possessed, and if such charm and attraction would be lost by the adoption of a different treatment, one should hesitate a long time before following it. It was a subject, however, that the President had very properly put before architects for consideration; and if, instead of wasting their time in replying to every invitation to compete, architects would exercise their brains by studying the subject, some good might result. As regards the position of the altar, there could be no doubt what the original idea was, because our Saviour dispensed the first communion upon earth with His disciples all sitting at one table. Therefore the idea of placing the altar at the most remote part of a long chancel, away altogether from the congregation, was certainly not confirmed by the primitive and the original idea of communion. With these remarks he begged to move a very hearty and cordial vote of thanks to the President for the able and interesting address to which it had been their privilege to listen.

Mr. G. H. FELLOWES PRYNNE [*F.*] said he seconded the vote of thanks with the greatest sincerity. He could not help thinking that when the President had to deliver Addresses to such an institution as theirs for three years in succession, the difficulty was more than threefold. The Addresses given by the President in the two previous years must have been acknowledged by all, not only to be able, but to be also full of life and vigour. To him they seemed thoroughly practical and elevating in their ideas, and he had read them with pleasure and profit. The Address delivered that evening was somewhat more limited in its scope, although it treated of things equally practical, such as the improvement of London, the subject of competitions, and that very large question of church planning. The President had spoken feelingly of those who had passed from us to another world, called to another sphere of work by the Great Architect of the Universe. Most of us had already felt the blank their loss had occasioned in our ranks, and all of us must feel the blank caused by their absence that evening. It might be truly said of them that they "rest from their labours and their works do follow them." But while speaking of their works he thought it might be an excellent thing if the Council would consider the possibility of arranging for an exhibition at the Institute of the works of deceased architects. It would not only keep green the memory of their departed friends and confrères, but would also be of immense use and value to members individually, and help perhaps to popularise the meetings in that room. As regards the subject of the improvement of London, the rebuilding on a large scale, as the President suggested, was, he thought, almost hopeless, because no sooner did we widen our streets and pull down buildings of more or less artistic interest or ugliness, as the case might be, than some other Goliaths or monstrosities of ugliness raised their heads, which in the future would be far more difficult to remove by reason of their size and self-asserted importance than the former buildings. To him it seemed extremely difficult to suggest any really satisfactory plan for the improvement of London. At the same time a Ministry of Fine Arts, such as that suggested, if it was truly representative of the art of the nation, might be of service both to the profession and to the nation at large. A similar sort of authority had been created in other countries—and certainly the streets of the capitals of Continental countries showed a considerable advance in dignity compared with our own. With regard to competitions, the Institute ought to be grateful to the President for having gone so thoroughly into the matter as regards the assessors appointed by the President or the Council of the Institute. It would show members outside, at least, that every member of the Council was thoroughly interested in getting fair play for those who took part in competitions, and in getting the best arrangements possible. In connection with this question he could not help referring to the great competition—one of the greatest competitions of the last century—in which the President had been engaged. He could not help thinking that Mr. Emerson had a right to complain that he had been unjustly, unfairly, and dishonourably treated in the matter. He did not wish to impute any dishonest or unjust motive to any individual, or to the Committee collectively; at the same time there could not be the slightest doubt that the noble plan for the Liverpool Cathedral submitted by Mr. Emerson was assessed as the best plan sent in. Under those conditions the President certainly was on the platform, and the lapse of time and alteration of site should make no difference whatever. Furthermore, both in and out of the profession Mr. Emerson had been looked upon, until quite recently, as the architect appointed. The author of that plan ought to have been consulted, and ought to have been allowed at least to send in another plan, even if the Committee did not bind themselves to accept it. [*Loud applause.*] Further, in his position as President for the third year of the Royal Institute of British Architects, his appointment as architect to the Liverpool Cathedral would have been looked upon by none with jealousy or with disapproval, but rather it would have been welcomed by every member of the Institute as a compliment to the Institute, as a compliment to the President himself, and as a well-deserved honour at the end of his third year of office. Coming to the latter part of the Address, the question of church planning and cathedral planning was of course a subject of very great interest, but nevertheless somewhat limited. All who had taken an interest in or worked at church planning must have felt that there was enormous scope for improvement in this branch of their work. At the same time none could more easily recognise the difficulties in the way of making radical changes in what are accepted as the principles of church planning than those who build churches; and although he thoroughly endorsed the wish that their church plans might be made more logical and more common-sensible from the present-day point of view, the subject was so teeming with matters of controversy, it opened the door to so many side issues, that he felt he could not touch upon it as fully as he would like. Perhaps, too, this was not the time or place to criticise or hold any controversy on the subject. It might well form the subject of a paper, when the whole matter could be discussed on its merits from various points of view. Suffice it to say that to build a church as it should be built there must be something far higher and far better and far nobler in the mind of the designer than that idea of all seeing and all hearing. They did not want their churches to be mere preaching-houses or music-halls, and he was certain that in the views the President had expressed he had no such idea in his mind. [The President: Hear, hear.] What they wanted was something infinitely higher in a true designer of churches. If it was to be a living factor in the spiritual life of the Church, they wanted that the architect should be able at least to enter into the really devotional and the higher aspects of their church architecture, that the very lines of his architecture should lead onward and upward, and that the very stones of their cathedrals should tell their own story, and preach a sermon that should be far more lasting than the many hundred discourses from the pulpit. He would not for a moment disparage the idea of seeing and hearing in church, but, to his mind, that all-seeing and all-hearing idea should not be the main motive of church planning, though it should certainly be incorporated in every necessity of the church and into every sentiment that an architect felt in carrying out the church. He most warmly congratulated the President on his third year of office, and heartily supported the vote of thanks for his admirable Address.

The PRESIDENT, having expressed his acknowledgments for the vote of thanks, said he was half sorry though naturally he felt very grateful to Mr. Anderson and Mr. Fellowes Prynne for their remarks with regard to Liverpool. He thought Mr. Fellowes Prynne was a little strong perhaps in his remarks about the Liverpool Cathedral Committee. It must be remembered that the members of the committee were not all the same gentlemen who had to do with the previous competition, and he had no doubt that many of them erroneously thought that architecture underwent strange advances in the course of fourteen or fifteen years, and that by having another public competition they might get a far finer design than his. Well, if they did, he should sincerely congratulate Liverpool, and be pleased to think that they were putting up the finest cathedral possible. Personally, of course, it was a great disappointment; but he had long ago felt that the Liverpool Cathedral scheme was almost in limbo, and he had hardly expected it would come on again in his lifetime.

9, Conduit Street, London, W., *9th Nov.* 1901.

CHRONICLE.

THE OPENING GENERAL MEETING.

The late James Brooks.

The comparatively small attendance at the Opening Meeting was due undoubtedly to the dense fog which prevailed over London and suburbs during the whole of the day and night. The preliminary business included the formal announcement by the Hon. Secretary of the losses which the Institute has sustained by death since the last Sessional Meeting. Notices of the deceased members have already appeared in the Journal, and record is now entered on the Minutes.

Coming to the final announcement, the death of Mr. James Brooks, Mr. Graham said they all deplored the loss of Mr. Brooks for many reasons. He was a familiar figure in that room, and a constant attendant at the meetings of the Council, of which he was a member for several consecutive years. Their deceased colleague, however, was something more than that; he was one of the few survivors of the old school of Pugin. During his long career he never swerved from the principles which were enunciated in that school, and he remained a disciple of Pugin, whom he might call the exponent of the great Gothic revival in this country of fifty or sixty years ago. Of Mr. Brooks's work it was scarcely his place to speak; there were so many who were better acquainted with the numerous churches that he built. He might say, however, that he was singularly gifted, and possessed many rare and good qualities. He was an excellent church planner, the lines of his compositions being marked by simplicity and by a perfect knowledge of the English version of Gothic architecture. One quality he possessed in a very remarkable degree—and he mentioned it because it was a little opposed to the modern school of followers of Gothic architecture—he possessed the quality of restraint, and that quality was observable in most of his works. As a senior member he would commend to the notice of the younger generation the excellence of Mr. James Brooks's ecclesiastical works.

The President and the American Institute.

The Hon. Secretary further announced that the President, Mr. Wm. Emerson, had been made an Honorary Member of the American Institute of Architects. The goodwill shown to them by their American brethren was, he was sure, reciprocated by every member of the Institute, and he hoped that the day was not very far distant when the President would cross the seas and attend one of the great gatherings of the American Institute as the representative of the Royal Institute of British Architects.

The announcement was received with warm applause, and the President, rising in response, said that he highly appreciated the distinction; he felt that the American Institute had done him and the Institute a great honour in electing him a member of their body. He should always retain a keen remembrance of the pleasant time that he spent in America when he went over there as a judge of architecture at the Chicago Exhibition. The courtesy and hospitality extended to him by the company of genial and brilliant men his duties brought him in contact with—architects, literary men, and sculptors—he should always remember with the liveliest satisfaction and gratitude. The American school of architects were doing great things. They were doing what certain members of the profession in this country were urging the rising generation to do—viz. to let their imaginations have vent in solving the problems incident to modern civilisation. But they exercised a certain amount of restraint in all their work. The Americans studied the best examples of Classic architecture as well as Gothic. Classic was their great *motif*, and they studied it in the best schools. Their young men studied in Paris, at the Ecole des Beaux-Arts, and they returned to their own country thoroughly grounded in ancient work; and this, after all, was the best grounding for restraining the imagination in working out modern problems.

Mr. Arthur Cates's Bequests to the Institute.

The President, referring again to the year's death roll, said that there was one of their number who passed away some months ago whose interest in the Institute was perhaps as great as that of any man connected with their body since the Institute was first started. He referred to Mr. Arthur Cates. The great interest he took in the educational movement, and the way in which he worked at bringing about the Institute Examinations, were well known to everyone. He was the main mover in the scheme, and his interest in the work never faltered to the last day of his life. He had now the pleasure to announce that Mr. Cates, by his will, had left the sum of £1,500 for the benefit of the Institute. While deeply deploring his death they must all feel grateful to him for this final testimony of his regard.

Under the will the legacy is to be invested, and the annual income to be applied in the provision of a prize to be called "The Arthur Cates Prize," and to be awarded in connection with the Institute Examinations. The following are the terms of the bequest:—

> I bequeath to the Royal Institute of British Architects the sum of £1,500. And I direct that the said sum of £1,500 shall be invested in such manner as the Council for the time being of the said Institute shall from time to time direct and that the income thereof shall be applied in or towards providing a prize or prizes to be called "The Arthur Cates Prize" to be awarded yearly according to such rules as the said Council shall from time to time enact for the promotion of the study of architecture, more especially in relation to the application of Geometry to vaulting, stability of edifice, and design, coupled with actual measurement and delineation, both geometrical and pictorial, of appropriate examples in Great Britain and foreign countries, it being made a condition that each prize shall be awarded in connection with some examination in architecture held under the authority of the Charter of the said Institute and that the recipient thereof shall have previously passed the Final Examination of the said Institute in one examination only. And I declare that in case any doubt shall at any time arise in any matter in relation to this bequest or the purpose for which it is intended the decision of the said Council upon the subject shall be conclusive.

The Hon. Secretary said that he had also the pleasure of stating that the Institute had benefited to a considerable extent in another direction through Mr. Cates's thoughtfulness and kindness. He had bequeathed to the Institute a handsome collection of books from his architectural library, the collection numbering 215 volumes. The books were displayed at present in the front room of the Library, and he trusted that every member interested in the literature of architecture would pass into that room at the close of the meeting, and inspect the beautiful works their lamented colleague had presented to them. The books were not only perfect in themselves, but they were all more or less well and handsomely bound. The Literature Committee, to whom the books were submitted for their report, had come to the conclusion that where there were duplicates in the Institute Library the books presented by Mr. Cates which were in better condition than our own should be put into the Reference Library, and our own copies be placed in the Loan. That, he thought, was a very wise recommendation. They were all anxious that the Loan Library should be extended so as to become as useful as possible, not only to the Allied Societies, but also to members residing in the country districts. They were at present hampered for want of space, but in due time they hoped to have plenty of room. The Loan Library was becoming exceedingly extensive and very valuable, and they were particularly anxious that their country members should be able, by applying, to have any book they needed from it. Therefore they were doubly indebted to the late Mr. Cates for his kindness in presenting these books. There was one other point he wished to mention—viz. the kindness shown by Mrs. Cates in carrying out the wishes of her late husband. Mrs. Cates had not only added a number of interesting prints and photographs to the original bequest, but had also kindly presented to the Institute one of the late Mr. Cates's bookcases, which, with Mrs. Cates's consent, had been placed in the tea-room upstairs. It was of course very desirable that Mr. Cates's collection should be kept together, and it was most thoughtful and kind of Mrs. Cates to take that interest in their proceedings. He therefore would ask the Meeting to pass a resolution that the thanks of the Institute be accorded to Mrs. Cates for the generous way in which she had complied with the wishes of her late husband.

Mr. Phenè Spiers [*F.*], F.S.A., said he should like to second the resolution as Chairman of the Literature Committee. Not only was the collection a large and valuable one, but many of the books were very unusual to be found in architects' libraries, and they were all of the greatest possible interest. Mr. Cates was not only a great collector, but a great reader. He (the speaker) had looked through many of the books, and he had had numerous opportunities of testing Mr. Cates's knowledge of them. Whenever he had difficulty in solving an architectural problem, he generally found that Mr. Cates knew all about the subject, and was ready to give an answer at once, or else to go to the Library and bring out a book in which he could get the information required. Doubtless the labour he expended on the Architectural Publication Society's Dictionary led him in his earlier days to look up every subject bearing on their art, and, as he possessed an extremely retentive memory, he was able at once to give an answer to any question.

The President, in putting the resolution, which was carried by acclamation, said he quite endorsed the remark about the very wide reading of Mr. Cates. Some of the pleasantest evenings of his life were spent in Mr. Cates's house. He was full of information, and he always felt that he had gained a great deal from an evening with Mr. Cates.

The Glasgow Visit.

Addressing the Meeting last Monday on the invitation of the President, Mr. John Slater, *Vice-President*, said that since their last General Meeting many members of the Institute had participated in one of those very pleasant provincial functions which were started some years ago, and which led the Institute to hold its Annual Dinner at a provincial centre of one of the Allied Societies. Many of them had the pleasure of going to Glasgow, and they were so royally entertained there that it would be only fitting that the Institute, as a body, should pass a vote of thanks to the Glasgow Institute and the various Societies in

Glasgow which entertained them so well. The Glasgow Institute—whose President, Mr. Burnett, was with them that evening—could not have done more than they did to make the visit to Glasgow a pleasant one. They gave a most *recherché* luncheon at the Exhibition, and the members of the Glasgow Institute were only too pleased to put their services at the disposal of the visitors. Then the Glasgow Corporation gave them a most charming entertainment at the Guildhall, which all present must have enjoyed to the full. At the University they were very delightfully entertained by Principal Story; and it was greatly to be regretted that more members did not extend their stay, for he himself had the pleasure of going to Principal Story's house and finding him a most genial and accomplished host. Then there was the Glasgow Art Club, to whom a special vote of thanks should be accorded, for they not only gave them a most delightful invitation to be free of their club, but they went a very long way in providing entertainment for the visitors. To the Chairman of that club—Mr. Christie—they were extremely indebted for two most enjoyable evenings. The Imperial Union Club most hospitably opened their doors to the visitors, and the Royal Society of Painters in Water Colours gave them admission to their charming picture galleries. It would take too long to go into any detail with regard to the buildings in Glasgow; but those members who saw the Art Club would feel that at any rate skill and very pleasing originality were two features of Glasgow architecture. He would ask members to be good enough to pass a most hearty vote of thanks to all the bodies he had mentioned for what they had done in entertaining the Institute during its visit to Glasgow.

The President, having named the various bodies, expressed his acknowledgments to the President of the Glasgow Institute, who entertained a number of the visitors, himself (the President) amongst the number, in his house. The vote was then put, and carried by acclamation.

The Statutory Examination.

At the Examination of candidates for certificates of competency to act as District Surveyors under the London Building Act, held by the Institute, pursuant to statute, on the 24th and 25th October, two candidates attended, and the following passed—viz.

Clement Osmund Nelson [*A.*], of 112 High Road, Chiswick, S.W.

Mr. Nelson has accordingly been granted by the Council a certificate of competency to act as District Surveyor under the London Building Act.

The Colonial Examinations.

The first of the Examinations held by the Institute in the Colonies took place at Montreal last June. The Examination was held in the rooms of the Province of Quebec Association of Architects, and was conducted by Mr. A. T. Taylor, Hon. Sec. R.I.B.A. for Canada, assisted by Professor Henbest Capper (McGill University), Messrs. A. Raza, S. H. Townsend, and W. A. Langton, of Montreal. The following candidate passed and has become qualified for Associateship—viz.

Andrew Sharp, of 73 McGill College Avenue, Montreal.

The Art Standing Committee.

Mr. Alfred Waterhouse, R.A., having been compelled through illness to resign the Chairmanship of the Art Standing Committee, Mr. J. Macvicar Anderson was unanimously elected to succeed him at the meeting of the Committee held on the 29th ult.

Royal Institute of Architects of Ireland.

On the 4th November Mr. George C. Ashlin, R.H.A. [*F.*], was elected President of the Royal Institute of the Architects of Ireland in place of Sir Thomas Drew, P.R.H.A. [*F.*], who has retired after occupying the Presidential chair for a period of fifteen years.

Liverpool Cathedral: New Conditions.

In deference to architectural opinion, backed by an admirable leader in *The Times* of the 16th October, the Liverpool Cathedral Committee have withdrawn their demand for a cathedral "in the Gothic style," and an amended notice has been advertised setting forth their new proposals for obtaining designs as follows:—

1. That any Architect who has been engaged in the erection of Cathedrals or Churches may submit for examination drawings and other illustrations of his works, or a Design for a Cathedral, as he may deem fit, not exceeding three sets altogether, the whole capable of being contained in one large portfolio, photographs of executed works not being excluded.

2. That Architects who have not been engaged in the actual execution of such works, but whose tastes have led them to study and design buildings of an ecclesiastical character, may submit similar portfolios of drawings or designs.

All portfolios of drawings to be sent in on or before the 30th June 1902, to the Hon. Secretaries, Church House, South John Street, Liverpool.

The Committee will carefully examine the respective portfolios, with the assistance of professional advisers, and will select a limited number of Architects for the final competition.

Each Architect selected will, unless there should appear good reason to the contrary, and under conditions hereafter to be announced, be invited to submit a design and plans for the proposed Cathedral.

Three Hundred Guineas will be paid to each competitor, whether his design be accepted or not; but the Committee to be absolutely free to accept or reject any or all such designs after such payment.

The Committee reserve the right of inviting any Architect or Architects who may not have taken part in the preliminary competition to submit designs and plans in the final competition.

The American Institute of Architects.

At the Annual Convention of the American Institute of Architects held last month, the following resolutions were passed:—

1. That a Committee be appointed by the Chairman, to consist of himself and four other members of the Institute, who shall study the question of a National Art Commission, report to the Board of Directors, and, with the consent of the Board, petition Congress on behalf of the American Institute of Architects to create such a Commission.
2. That a permanent Committee on Competitions, composed of three members, be appointed by the Chair to give advice to those desiring information, and to induce reputable Architects to refrain from entering improper competitions.
3. That a Committee on Municipal Improvements, composed of three members, be appointed by the Chair to co-operate with other societies having municipal improvements as an object.
4. That a Committee of five, inclusive of the Chairman, be appointed to secure the formation of a National Bureau of Architecture, under whose administrative charge shall be placed the architectural work of all the departments of the national Government, the work to be executed under a law similar to the Tarsney Act, which should, however, be mandatory and not optional.
5. That a Committee of five be appointed by the Chairman to organise a World's Congress of Architects, to be held in St. Louis in 1903 in connection with the centennial celebration of the Louisiana Purchase.
6. That one delegate from each of the national societies of sculpture, mural painting, landscape architecture, and civil engineering, be hereafter invited to attend the Annual Conventions of the Institute; said delegates to have all the privileges of the floor, except that of voting.
7. That a Committee of three be appointed by the Chairman to ascertain the views of the members of the Institute as to the desirability of adopting in this country the metric system of measurements; said Committee to confer with the Superintendent of the Bureau of Standardising, and to represent the views of the members of the Institute before Congress.

The C.I.V. Medal.

The Institute has received from the Corporation of the City of London, through Sir John B. Monckton, a bronze replica of the medal struck to commemorate the raising and equipment of the City of London Volunteers and their service in South Africa in 1899–1900, with the request that it be deposited among the collections of the Institute. The medal, which measures three inches across, was designed by Mr. George Frampton, A.R.A. [*H.A.*].

On the *obverse*, inscribed "Pro Patria Regina et Urbe," heralds are shown with trumpets calling up volunteers. The central figure represents the City of London, armed, giving the freedom to a departing C.I.V. At the top the men are seen marching to the front. The medal is surrounded by branches of sturdy British oak, entwined with a ribbon bearing the names of the principal engagements in which the C.I.V.'s took part.

On the *reverse*, the radiant sun of the British Empire shines behind a hill, which is surmounted by a tall staff flying the Union Jack and C.I.V. flag. Encircling the base of the mound are young oaks, symbolic of the new-growing territories. Guns to right and left guard the flags. This side bears the inscription, "The City of London Imperial Volunteers, raised and equipped for the war in South Africa by the Citizens of London; formed December 1899; returned to London October 1900."

"The Beginnings of Gothic Architecture."

The first part of a translation of Mr. John Bilson's Paper, "The Beginnings of Gothic Architecture: Norman Vaulting in England,"[*] appears in the last number of the *Revue de l'Art Chrétien*. The translation is the work of M. Lionel de Crèvecœur and M. Marc Raynard, and the Council have permitted the use of the original blocks for the illustrations. The French title is, *Les Origines de l'Architecture Gothique: Les Premières Croisées d'Ogives en Angleterre.*

REVIEWS.

FURNESS ABBEY.

The Abbey of St. Mary-in-Furness. By W. H. St. John Hope, M.A. Reprinted from "Cumberland and Westmorland Antiquarian Society's Transactions."

We expect from so accomplished an archæologist as Mr. St. John Hope scholarly investigation and able exposition, and his study of Furness Abbey gives us exactly what we could hope for.

It is not only for their intrinsic and archæological interest that the careful study of great buildings of the past is profitable, for, even in ruins and apart from the elusive charm which age confers, their greatness appeals against the dilettante and the faddy which seems so largely to possess us at the present day.

The book is admirably illustrated by reproductions of engravings, drawings, and photographs, the latter picturing all but the colour of the lichen-covered sandstone; and of all the illustrations the most useful and comprehensive is the lucid historical plan that in itself forms an epitome of the text, and in which are easily distinguished the successive architectural strata that patient labour and comparative knowledge have revealed and made clearer upon paper than upon the site itself. When, as in one instance, there is a discrepancy between the plan and the text, the plan is right.

Furness Abbey has its points of special historical interest as well as architectural. Originally it was founded as a house of the order of Tiron—an order that effected certain reforms in the Benedictine polity, and to this time belong the foundations of the semicircular transeptal chapels and the traces (not yet followed out) of a semicircular apse, revealing a French plan alien from the Cistercian developments in France and England, and more nearly allied to Cluniac tradition. The foundations of the transeptal chapels, partly underlying the later eastern wall, have been left uncovered and are carefully maintained.

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[*] JOURNAL R.I.B.A. Vol. VI., 3rd series, Nos. 9 and 10.

The traces of any attempt at reform are always of interest, and we should like perhaps to have heard something more of the particular phase to which these foundations bear witness.

The account given by Mr. Hope of the manner in which the house passed, together with the mother church of Savigny and all its offshoots, into the hands of the Cistercians, illustrates points in the social aspect of monachism. He tells us from the Furness Coucher Book how the fourth Abbot of Savigny—Serlo—"rendered his house of Savigny with all its daughters of the order of Tiron to the Cistercian order into the hands of St. Bernard, then Abbot of Clairvaulx, against which rendering the aforesaid Abbot Peter" (Abbot of Furness in 1148) "with his convent appealed to the Pope and the holy apostolic see. To which see coming in person he obtained from the lord the Pope Eugenius III. a confirmation that his monastery of Furness should for ever remain of the same order of which it had first been founded, notwithstanding the rendering aforesaid."

Mark the discipline of an order which at the stroke of a pen could be bodily "rendered" by the father abbot to another order. It would be interesting to know the reason for such "rendering." The independence of Abbot Peter shows that Furness must have been a powerful corporation, and his method of opposition is remarkable since the right to interference in monastic institutions by the Church was a point upon which there had always been considerable tenacity on the part of the followers of St. Benedict. The Pope, no doubt, was not unwilling to seize his opportunity; but we further hear how the head of the order laid in wait for the recalcitrant abbot as he returned, and re-established his authority over the truant:

"But on his return from the Roman court he was seized on the way by the monks of Savigny and taken to Savigny. There he resigned his office as abbot, and became a most worthy monk in the same place, learning the Cistercian order, and thence he was chosen fifth Abbot of Quarr. To which Peter there succeeded at Furness as fifth abbot Richard of Bayeux, doctor in Theology, a pious monk of Savigny who ruled for a short time; by whose diligence and courage the monastery of Furness itself was rendered to the mother house of Savigny and to the Cistercian order before the same Richard was elected in the same to the abbacy."

And so the Cistercians took possession and gave us what might have been a still more precious heritage than it is were it not that in 1537, "the lead is all moltene and cast in sowys with the Kynges marke fyxsyde therto, and put in a suer house accordying to his graces commandment: there can be no better leade as sayne the plomers"—too common a picture of ruthlessness.

This and much more Mr. Hope tells us of the history, and then passes on through a general view of successive building operations to an exhaustive account of the plan and architectural features of the monks' home, all of which is clear and full. Further work in the excavations may reveal more, especially the plan of the first Chapter House, the discovery of which might perhaps modify Mr. Hope's view of the early arrangement of the south transept.

The glory of Furness is indeed in its thirteenth-century Chapter House. In other respects we can find monasteries with finer individual parts, except for the remains of the beautiful Infirmary and its adjoining chapel.

In the church itself one may regard the indication of its internal arrangements, made clear by Mr. Hope, as one of the most interesting features of the ruins—the foundations of the quire and pulpitum screens and chapels—while the fine sedilia in the Presbytery have retained their completeness in the most wonderful manner.

There can have been few rivals to this group of buildings in the country, and we cannot be too grateful to the ardour and skill with which Mr. Hope preserves for future generations what remains of it to-day and reconstructs what has existed in the past.

PERCY S. WORTHINGTON.

SHROPSHIRE CHURCHES.

An Architectural Account of the Churches of Shropshire. By the Rev. D. H. S. Cranage. Part V. 4o. 1901. [*Hobson & Co., Wellington, Shropshire.*]

With the publication of Part V. the first volume, and with it the first half, of Mr. Cranage's great undertaking of writing a descriptive and critical account of every church in a large county is completed. The new part describes the churches contained in the hundreds of Purslow and Clun, comprising the south-western corner of the county, along the Welsh border. No very large or important churches are to be found in this division, so that the number of illustrations in this part is small. Plans of two churches only are given—those of Clun and Lydbury North; but each of these buildings possesses a good many points of interest. The photographs of the (comparatively) well-preserved rood-screens in the church last mentioned, and of that at Bettys-y-Crwyn, should be noticed.

In the present part are included the preface to the whole work, and also an illustrated glossary.

The preface clearly explains the author's aims and methods in the compilation of the work, and gives evidence of much good sense and discrimination. As an instance of Mr. Cranage's commendable moderation in handling a difficult question, on which feeling is very apt to degenerate into passion, the following paragraph is worth quotation:

> In a literary work which is spread over many years it is difficult to keep to the same style and plan throughout. Knowledge naturally increases and modes of expression alter. I hope it will be found that there is a fair degree of uniformity. I am conscious of one change in the later work—the tendency to deal more fully with the history of a church during the seventeenth and eighteenth centuries. Years ago one was perhaps too much taken up with enthusiasm for everything "Gothic," and was inclined to think that nothing later than the sixteenth century was of any account. Further study has shown the absurdity of this, and has intensified one's hatred of much so-called "restoration." . . . Anyone who has visited a large number of old churches is almost certain to become an anti-restorer, but I have tried to be fair to the other side. The pendulum may swing too far in the "anti-scrape" direction. It is easy enough to run down all restoration, but it has to be borne in mind that a church is not chiefly a museum of archæology, but a place of worship. It is no easy matter when there are debased and inartistic additions, to say what must be retained for historical reasons and what is unbearably ugly or irreverent. I am glad to testify that the problem has been solved by some architects and clergy with conservative care and common-sense.

It is always pleasant to find an author both just and generous in his recognition and gratitude for all assistance rendered to him in the course of his work, and Mr. Cranage makes all his acknowledgments of indebtedness very thoroughly. To Mr. Martin J. Harding and Mr. W. Arthur Webb, who respectively made the photographic views and drew the plans of churches and sections of mouldings, Mr. Cranage says he owes more than he can express. "They have thought no amount of trouble or time too much to produce the best results, and they have done their work without reward. No man was ever more fortunate in his colleagues than I have been." And it may be added that, judging from the book itself, this praise is very well bestowed.

As to the glossary, Mr. Cranage deprecates criticism, saying that he hopes it will not be criticised as a treatise on architecture, to which it has no pretensions. Taking it at this modest standard, it will undoubtedly be useful to amateurs, though a good many of the definitions are almost too brief to be explanatory, and the number of cross-references—*e.g.* "Ball-flower, see Ornament," "Cant, see Roof," "Chamfer, see Moulding," "Cusp, see Window," &c.—is somewhat irritating. The use of a uniform system of hatching, to indicate date, both in the sections of mouldings and on the ground-plans, is a feature of the work much to be commended.

ARTHUR S. FLOWER.

BRISTOL CATHEDRAL.

Bell's Cathedral Series.—The Cathedral Church of Bristol: A Description of its Fabric, and a Brief History of the Episcopal See. By H. J. L. J. Massé, M.A. 8o. *Lond.* 1900. *Price* 1s. 6*d.* [*Messrs. George Bell and Sons, York Street, Covent Garden.*]

With the advent of this little volume, the series of Cathedral Handbooks published by Messrs. George Bell & Sons draws sensibly nearer to completion, and gains progressively in value.

The present volume forms an important contribution to the series, inasmuch as it deals with a building of unique character and interest, and from the judicious selection and careful co-ordination of the matter it contains, may certainly be regarded as a very satisfactory addition to the volumes already given to the public.

The cathedral at Bristol, on account of its modest dimensions and unpretentious exterior, cannot be held to rank with the great cathedral and minster churches of England, and has perhaps not been so much the subject of popular attention as other structures of its class. Nevertheless, as a glance into this little book will show, it can boast of a variety of features of exceptional interest and value, and not a few of great architectural importance.

It is moreover unique in presenting the only serious and enlightened attempt at the completion of an ancient fabric of similar importance, by the addition of a nineteenth-century nave.

As appears from the concise summary of historical facts concerning this edifice given in Mr. Massé's book, the building was first consecrated A.D. 1148 as the abbey church of a brotherhood of Augustinian canons. The Norman church was cruciform, and on smaller lines than the later structure. This has disappeared, but the magnificent Chapter House, finished about A.D. 1155, and the richly moulded gateway to the close, remain to give testimony to the superb nature of that early work.

The Early English additions to the Abbey Church were not extensive, but the chapel now known as the "Elder Lady Chapel," erected A.D. 1215–1234, on the north side of the Norman choir, is left as a beautiful and characteristic specimen of thirteenth-century work, and has not suffered materially from its ingenious incorporation with the choir erected a century later.

The choir, which was the work of Abbot Edmund de Knowle, dates from 1298–1332, and well deserves the praise bestowed upon it. It was so well built that it has never required internal restoration, and stands now substantially as it left the builder's hands.

In the distressful years following the Black Death, the Abbey became much decayed and the monastery came near to dissolution—being much affected also by the Wyckliffe controversies, and by the work of unauthorised preachers (not always innocent of political bias) who seem even in those remote days to have had numerous adherents in a city which has always been a stronghold of free religious thought, and the home of many denominations.

The Norman nave had been ruinous since A.D. 1311.

Building started afresh in the latter half of the fifteenth century—the central tower being assigned to a date between 1450 and 1470.

The work of building and renovation was continued under Abbots Hunt and Newland, and the domestic buildings and Abbey Gateway would appear to have been partly rebuilt under the latter, and Abbot Elyot (1515–1526).

Abbot Newland commenced a new nave outside the Norman walls, but at cill height the work was stopped, and the abbey having meanwhile been dissolved, it was cleared away in 1548 together with the Norman walls which had been demolished a year or two earlier.

The monastery was dissolved in 1539, and the see constituted in 1542—its foundation being credited to Cranmer.

A plan of the early cathedral is extant, dated 1727. There was the usual removal of "superstitious images" and tabernacle work under Elizabeth, and the structure suffered further damage in the Civil Wars; but since then it has been carefully conserved by the public spirit of Bristol citizens.

As a result of the riots of 1831, when the Bishop's Palace was burnt, the houses built on the site of the old nave were pulled down for safety's safe. A scheme of restoration and decoration was carried out at large cost in 1852. Much of the work was done, as might be expected, in ignorance of the true principles of restoration, and has since been rectified to a great extent. The carved oak stalls, for instance, had been cut about and re-arranged, some of the wood screens and the bishop's throne taken down and removed to a Gloucestershire village church, whilst the old organ screen of 1540 was destroyed. The remains of this screen, which must have been a work of singular refinement, are stored in the cloister, and I understand that there is an intention on the part of the Cathedral authorities to use the better preserved fragments for a parclose on the south side of the choir, at the back of the sedilia. This is perhaps the best that can be hoped for, as the sturdy Protestantism of Bristol, which commanded the removal of the figures of the Church fathers from the new north porch, would certainly oppose its re-erection in the old position. Although the organ screen was swept away, the old organ remains. It is attributed to Renatus Harris, and parts of it date back to 1681–5. Much of the old work still remains, and the tone is considered very fine. A specification of the instrument is given.

Under the late Canon Norris much good work was done in the Cathedral, and in 1868 the foundations of the new nave were laid. The work was entrusted to Mr. Street, and was substantially completed in 1877 at a cost of some £50,000, but not finished in detail until its dedication in 1888. The Abbey Gateway, Central Tower, and Elder Lady Chapel have since been restored by Mr. Pearson, under whose superintendence also the two western towers were added, following Street's sketches.

In pursuance of the good rule already noted in previous publications of this series of handbooks, Mr. Massé, after devoting considerable space to a well-condensed summary of the history of the Cathedral, takes his readers for a systematic tour around the structure, noting every feature of interest. He very rightly devotes considerable attention to the new work, and bestows his criticism very justly.

Street had to design a new nave in harmony with the fourteenth-century choir and transepts, and it must be admitted that his work is successful in its most important aspect—the interior. Faithful to the type suggested in the beautiful choir, he has by the addition of so well-matched a counterpart greatly enhanced the value of the old work—since he has created a grand perspective, and an effect of scale and distance which would certainly have been lacking had he broken the uniformity of the effect by any abrupt transition. Harmonious and stately, lacking nothing in dignity from the omission of a clerestory, but rather gaining thereby from the shadow and the mystery which linger among the great dim arcs of the groining, this work stands almost alone as the representative of a type all too uncommon in our great churches, whether of old or of modern times, a type in which the unbroken sweep of the lines from plinth to ridge-rib gives a maximum of impressiveness with a minimum of absolute scale. It is in the exterior of Street's design that the weak points are apparent. Individual features are good, in particular the north porch, but as a whole the lines are disappointing, and the detail rather barren of interest. This is especially the case with the west front, which is tame and weak, and suffers from its division into so many stages. It is like a Continental composition on a diminutive scale—faintly reminiscent, as Mr. Massé suggests, of Notre-Dame at Paris.

The west towers, completed from Street's rough sketches, are singularly unhappy in their design, and they do not accord at all well with the central towers. It is certain that the architect missed a great opportunity when he dealt with this façade in so commonplace and trivial a manner. It looks like a hasty finish to a fine scheme, and is incredibly disappointing. What the eye hungers for here is a great western screen with a group of giant arcades, or deeply moulded portals, as at

Peterborough—and to such an arrangement the general proportions of the building would seem well adapted.

Further space is devoted in Mr. Massé's book to a description of the reredos lately erected in the choir, also to the choir pavements of variegated marbles recently completed. The latter, from their sharp contrast of colour and high polish, do not command unqualified approval. Monuments, stained glass, and other minor features are fully noted, and a chapter is devoted to the Cathedral precincts.

This and all other parts of the volume are abundantly illustrated by reproductions of drawings and photographs. The latter are distinctly above the average for clearness and general excellence. Complete lists are given of the abbots of the Old Foundation, also of the bishops and deans of the Cathedral.

In point of completeness, no less than of general clearness of arrangement and description, the work leaves little to be desired, and both author and publisher may be congratulated upon the appearance of so attractive and well got-up a little volume.

Bristol. FREDK. BLIGH BOND.

RENAISSANCE DOORWAYS—ITALIAN.

Topical Architecture: a Library of Classified Architectural Motives and Details. Edited by William Rotch Ware, Fellow of the Boston Society of Architects. Renaissance Doorways—Italian. I. Fo. Boston. 1901. [*American Architect and Building News Company, Boston.*]

This is the first of a series of volumes to be published by the American Architect and Building News Company of Boston in each of which it is intended to collect a number of plates illustrating some particular architectural "topic." The plates will not be all drawn for the present publication, for, besides that they will for the most part have appeared in an unclassified form in a monthly journal called "Topical Architecture" contemporaneously in course of publication by the same firm, it would seem that standard sources will be largely drawn upon. Some of the drawings in the present volume, for instance, are taken or redrawn from illustrations contained in such well-known works as Letarouilly's "Edifices de Rome Moderne" and Cicognara's work on Venetian buildings and monuments, not, however, without indication of their origin.

This present volume contains upwards of a hundred sketches, measured drawings and photographs of Italian doorways of the style, with its numerous variations, known as the Renaissance. Lest anyone should feel called upon to draw attention to omissions of notable examples such criticism is met in advance by the writer of the preface who points out in effect that that is a fault easily remedied by the publication of a further volume.

The collection whether hereafter, as this remark suggests, to be enlarged or not is a very considerable one having regard to the fact that it is confined to one single "topic" and contains much that is interesting and, to anyone peculiarly interested in the somewhat restricted subject, useful. But to the ordinary practising member of the profession whether he has continued to be a student or not the collection will not probably appeal, while for the more elementary student it doubtless was not meant.

A great deal of the instruction which might be derived from the contemplation of examples of such architectural features or parts as are here given is lost by the presentation of them dissociated from the architectural whole of which they were designed to form part.

The volume is of sumptuous appearance and the agency for its publication (at the price of £2 10*s.*) is in the hands of Mr. Batsford.

H. P. BURKE DOWNING.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1901–1902, held Monday, 4th November 1901, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 24 Fellows (including 14 members of the Council), 16 Associates (including 3 members of the Council), 2 Hon. Associates, and visitors, the Minutes of the Meeting held Monday 17th June [p. 428, Vol. VIII.] were taken as read and signed as correct.

The following Associate attending for the first time since his election was formally admitted and signed the Register —viz. Emanuel Vincent Harris.

The Hon. Secretary formally announced the decease of the following members:—William Larner Sugden [*F.*], H. Yeoville Thomason [*F.*], Robert Isaac Bennett [*F.*], Herbert Richard Lloyd [*A.*], John Mackland [*F.*], John Littlewood [*F.*], and James Brooks [*F.*], *Past Vice-President* and *Royal Gold Medallist* [see p. 12].

The President announced a bequest to the Institute by Mr. Arthur Cates of the sum of £1,500, to be devoted to the founding of a prize to be called "The Arthur Cates Prize" and to be awarded in connection with the Institute Examinations.

The Hon. Secretary having announced that the Institute had further benefited under the will of Mr. Arthur Cates by his bequest to the Library of a valuable collection of architectural works, and that by the kindness of Mrs. Arthur Cates the gift had been accompanied by a bookcase, the property of her late husband, in which to keep the books, it was

> RESOLVED, that the warmest thanks of the Institute be tendered to Mrs. Cates for her gift and for the generous consideration she had shown the Institute in carrying out the wishes of her late husband.

The Hon. Secretary announced the President's election to Honorary Membership of the American Institute of Architects.

On the motion of Mr. John Slater, *Vice-President*, a cordial vote of thanks was passed by acclamation to the following public bodies and institutions in Glasgow for the hospitality extended to members during the recent visit of the Institute to Glasgow—viz. The Glasgow Institute of Architects, the Glasgow Corporation, the Glasgow University, the Glasgow Art Club, the Imperial Union Club, and the Royal Scottish Society of Painters in Water-colours [p. 13].

The following applicants for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, viz.:—As FELLOWS, Basil Edgar Baily (Nottingham); John Begg [*A.* 1891], *Pugin Student* 1890, *Ashpitel Prizeman* 1891, *Inst. Medallist* (*Essays*) 1894, Consulting Architect to the Government of Bombay (Bombay); John Cash; Henry Edward Farmer (Walsall); Henri Favarger (Cairo, Egypt); John Harry Woodall Hickton [*A.* 1900] (Walsall); Francis Edward Masey [*Soane Medallist* 1887] (Cape Town); Matthew Burn Price (Pietermaritzburg, Natal). As ASSOCIATES, Thomas Wilson Aldwinckle (*Probationer* 1894, *Student* 1895, *Qualified* 1901); Harry Allberry (*Qualified* 1895) (Dublin); John Percival Bishop (*Probationer* 1896, *Student* 1897, *Qualified* 1901); Charles Henry Edward Bridgen (*Probationer* 1895, *Student* 1897, *Qualified* 1901); Henry Cayley, M.A. Cantab. (*Probationer* 1895, *Student* 1897, *Qualified* 1901); Frederick Dare Clapham (*Qualified Special Examination* 1901); William Bruce Dawson (*Qualified Special Examination* 1901); Harry Daborn Day (*Probationer* 1892, *Student* 1894, *Qualified* 1901) Godalming; William Mackereth Dean (*Probationer* 1896, *Student* 1899, *Qualified* 1901) (Gravesend); Lionel Gordon Detmar (*Probationer* 1896, *Student* 1899, *Qualified* 1901); Tom Norman Dinwiddy (*Probationer* 1893, *Student* 1895, *Qualified* 1901); Leonard William Ensor (*Probationer* 1898, *Student* 1900, *Qualified* 1901) (Sheffield); Kensington Gammell (*Probationer* 1895, *Student* 1897, *Qualified* 1901); Leolin Charles Gregory (*Probationer* 1895, *Student* 1897, *Qualified* 1901); Charles Llewellyn Hall (*Probationer* 1895, *Student* 1896, *Qualified* 1901) (Blackburn); John Percy Hall (*Probationer* 1897, *Student* 1899, *Qualified* 1901); Sidney Joseph Halse (*Probationer* 1896, *Student* 1899, *Qualified* 1901); George Robinson Cuthbert Harding (*Probationer* 1897, *Student* 1897, *Qualified* 1901) (Lincoln); Abraham Holstead (*Probationer* 1897, *Student* 1898, *Qualified* 1901), (Alnwick); Edward Vincent King (*Probationer* 1893, *Student* 1895, *Qualified* 1901) (South Shields); Alexander George Robertson Mackenzie (*Probationer* 1894, *Student* 1898, *Qualified* 1901); Ernest Godfrey Page (*Qualified Special Examination* 1901); Arthur Pickup (*Probationer* 1895, *Student* 1897, *Qualified* 1901) (Blackpool); Louis Edward Pryke (*Probationer* 1894, *Student* 1897, *Qualified* 1901); Edgar John Pullar (*Probationer* 1894, *Student* 1898, *Qualified* 1901); Arthur Henry Roe (*Probationer* 1893, *Student* 1897, *Qualified* 1901); Reginald Bertie Rowell (*Probationer* 1893, *Student* 1896, *Qualified* 1901); Clement Stretton (*Probationer* 1898, *Student* 1900, *Qualified* 1901) (Leicester); John George Walker (*Probationer* 1894, *Student* 1896, *Qualified* 1901); Raymond Cyril Wrinch (*Probationer* 1896, *Student* 1898, *Qualified* 1901) (Ipswich). As HON. CORRESPONDING MEMBERS, Señor Don Enrique María Repulles y Vargas, President of the Central Society of Spanish Architects (Madrid); Señor Don M. Alberto de Palacio, of Miguel (Madrid).

The results were reported of the Statutory Examination held by the Institute in October.

The results were also reported of the Examination qualifying for Associateship held by the Institute in the Colonies last June, this being the first of such Examinations.

The President having delivered the OPENING ADDRESS of the Session, a vote of thanks, moved by Mr. J. Macvicar Anderson, *Past President*, and seconded by Mr. G. H. Fellowes Prynne [*F.*], was passed to him by acclamation and briefly responded to.

The proceedings then closed and the meeting terminated at 9.40 p.m.

LEGAL.

London Building Act, sections 68 and 74: Dwellings for the Industrial Classes: Fireproof Floors.

LONDON COUNTY COUNCIL *v.* BUSH.

At Marylebone Police Court, on 26th October, Mr. Plowden heard a summons issued at the instance of Mr. Arthur Ashbridge, district surveyor for Marylebone, against Alfred Bush, builder, of 6A Ridgmount Street, Gower Street, W.C., for, in erecting a building at the corner of Paradise Street and Ashland Place, Marylebone, making default in complying with a notice of irregularity under the Building Act.

Mr. D. P. Andrews supported the summons on behalf of the London County Council; and Mr. Watson Moyses, barrister, defended on behalf of the Portland Industrial Dwellings Company, the owners of the building in question.

Mr. Andrews, in stating his case, said that the building was a large one, and was intended for the occupation of persons of the industrial classes. Both sides agreed that, it being over 125,000 cubic feet in extent, section 68 of the London Building Act 1894 applied. That section provided that in every public building, and in every other building of more than 125,000 feet of cubical extent, and which was constructed or adapted to be used as dwelling houses for separate families, the floors of the lobbies, corridors, landings, and flights of stairs should be of fire-resisting material, and carried by supports of a similar material. But it was also contended by the complainants that the building, being over 25 squares, or in other words, covering more than 2,500 superficial feet, should conform to section 74, subsection 3, of the same Act, which required that all the floors of the rooms, as well as those of the lobbies, &c., should be fireproof. In all probability a paraffin lamp would be lighted in every one of the rooms in this building at night, and it was therefore of the highest importance that the floors should be fire-resisting.

Mr. Moyses contended that section 74, subsection 3, only aimed at large buildings like flats, or where there was a set of chambers like those in the Temple, containing three or four rooms, intended to be occupied by different persons, and with an outer door. The object of the company he represented was, he said, to solve the problem of finding dwellings for the industrial classes in congested districts. Every one of the rooms in the building in question might be let off separately; at any rate, a weekly rent would be charged per room. They therefore thought it was oppressive and unreasonable to try to compel them to incur the great expense of making the floors of even the smallest rooms fireproof. As to the possibility of fire, he pointed out that in all probability gas, and not lamps, would be used by the tenants.

Mr. Plowden said that the whole case seemed to turn on the question, What was a fair meaning to be placed on the words of the Act that in every building "containing separate sets of chambers, offices, or rooms," there should be fireproof floors? In his opinion, "separate sets" had nothing whatever to do with offices or rooms, but referred simply to chambers. Every kind of room, office, or set of chambers which was inhabited at all should, therefore, be furnished with fireproof floors. Consequently, he held that this building contained sets of chambers or rooms, or even if not sets, they contained rooms which required fireproof floors. His order would be that the defendant should comply with both sections 68 and 74 of the Act, and pay £5 5s. costs.

SOME DETAILS OF BURGUNDIAN ARCHITECTURE.

By Clement Heaton (Neuchâtel).

MR. PERCY WORTHINGTON'S description of Burgundy and the valuable Papers on Romanesque Architecture which have appeared in the Journal lately prepare the way for an examination of the details of Romanesque Architecture, and specially of the Province of Burgundy. Moreover, Burgundy has a general claim on our interest, as it was in the twelfth century the headquarters of monastic influence, the moulding power of the epoch. Architecture particularly was thus governed, even as in succeeding ages other forms of corporate life produced the Cathedral and the Palace; and the twelfth-century architecture of Burgundy may be said to be one of the links of the great chain of the evolution of art which reaches down to our own times.

Happily the magnificent stone of the locality not only gave great scope to the carver, but has preserved every detail without decay. Thus some Roman work at Avenches in the Transjuran Burgundy, carved in Jurassic limestone, shows every cut of the chisel as clear as the day it was done. Burgundy was also an important centre of Roman art; at Autun and Avenches remains exist enabling one to see what the Romanesque builders had before them as models.

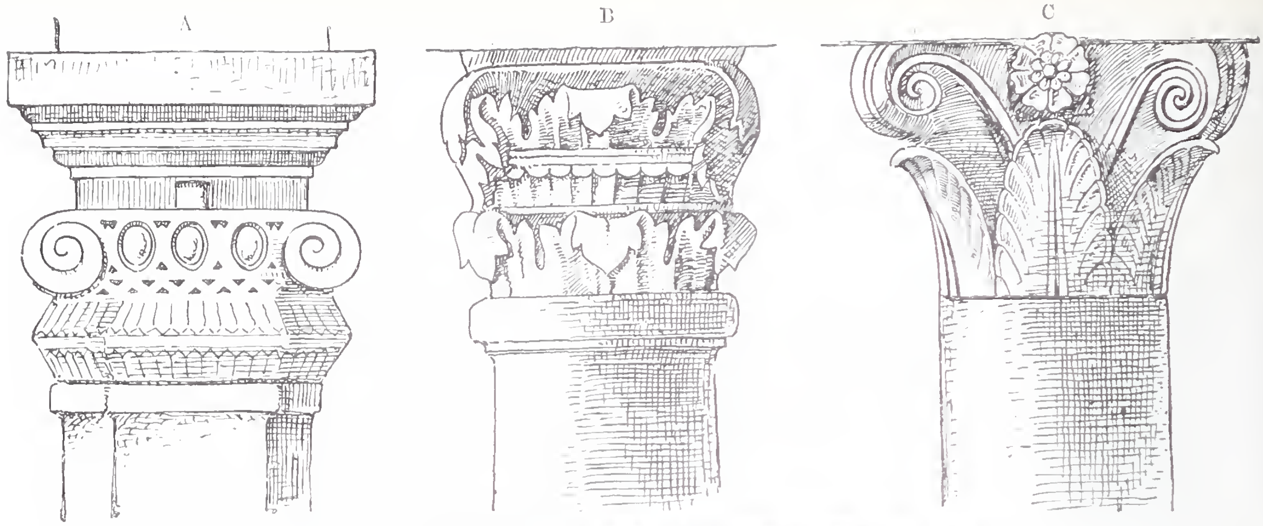
An examination of such examples leads to the conclusion that Romanesque detail was formed by an unconscious corruption of the Gallo-Roman work close at hand, which underwent a continual further modification till ultimately we arrive at "Gothic" forms. Meanwhile, alongside of this, Byzantine ideas and *motifs* came as an imported element, and were incorporated with the local stock.

When one is not preoccupied with the study of the problem of vaulting and other constructive points, the mind is drawn to the capitals as the primary element of interest. They are set like jewels amidst broad expanses of wall, and even under liberal supplies of whitewash they sparkle from the rich and spirited quality of the cutting. Scattered remnants of painted decoration on the walls show that the original effect was heightened by the presence of polychromatic decoration, which, before the introduction of stained glass, had a place of marked importance as an element of architecture, very different from what it had afterwards. But these remains are so scanty, it is the capital, and after it the tympanum of the doorway, which rivet one's attention as the elements which give most insight into the mentality of the builders: until the "storied pane" came into existence one finds the "storied capital."

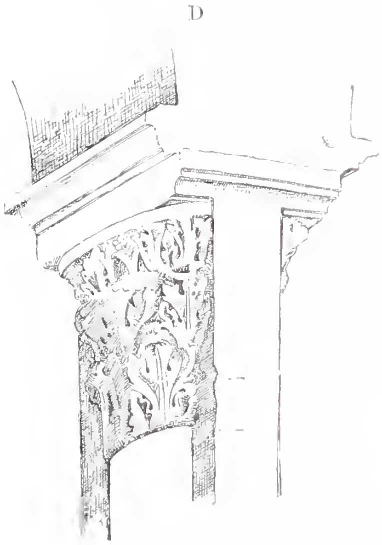
The capitals in the crypts of St. Germain at Auxerre (A, B, C), however crude, are precious as showing the persistence of Roman tradition down to the eighth century. It is true that the design is barbaric, and that already other influences are at work, yet the Corinthian capital and the egg-and-tongue moulding and volute of an Ionic capital are there as a basis. At the eastern extreme of Burgundy, at Romainmotier, we see another handling of the same *motif* (D), while a little further on, at Payerne, we find later examples (E, F), in which the corruption has become very far advanced—so much so that, without the earlier examples, one would doubt the reality of the Roman influence. But the church of Payerne has internal evidence of this influence in the fact that one of the exterior corbels of the apse is a remnant of Roman carving of which similar pieces still remain at Avenches, ten kilometres away; and the stones even of the lower part of the apse come from the same source. The capitals at the exterior show, notwithstanding, a quite free type of design.

At Grandson the design and execution of the sculpture is at a lower level than at Payerne. Professor Rahn, of Zürich, dates this work at the end of the eleventh century. There are three types of capital—the debased Corinthian (G), the dramatic subject, and a bell-shaped type with interlaced ornament, apparently of Rhenish origin (H). Local antiquaries affirm that Payerne, Romainmotier, and Grandson were erected under the influence of Cluny under Odon (927–941) and Odilon (994–1048), and it is quite possible we have work here preceding that at Vézelay. It is, however, in the nave of Ste. Madeleine, at Vézelay, that the most sumptuous display of carving is found. There are ninety-four capitals, all different in design, and they give warmth and joy to the building, which without them would be forlorn and cold. If the cutting is somewhat uncouth, as may be expected at the date of 1106, they are yet "grand, dramatic, and true" in character. Here the Roman acanthus is well in evidence (I), but not less so the Northern dramatic energy which decorates even the bases with such a subject as two dogs disputing a bone. The capitals are full of story, and the well-known tympanum is precisely the same in quality as the capitals. The narthex is somewhat later (1132), and shows not only an advancing refinement, but also the incoming of the Byzantine *motifs*, which in this part are found side by side with the true Romanesque.

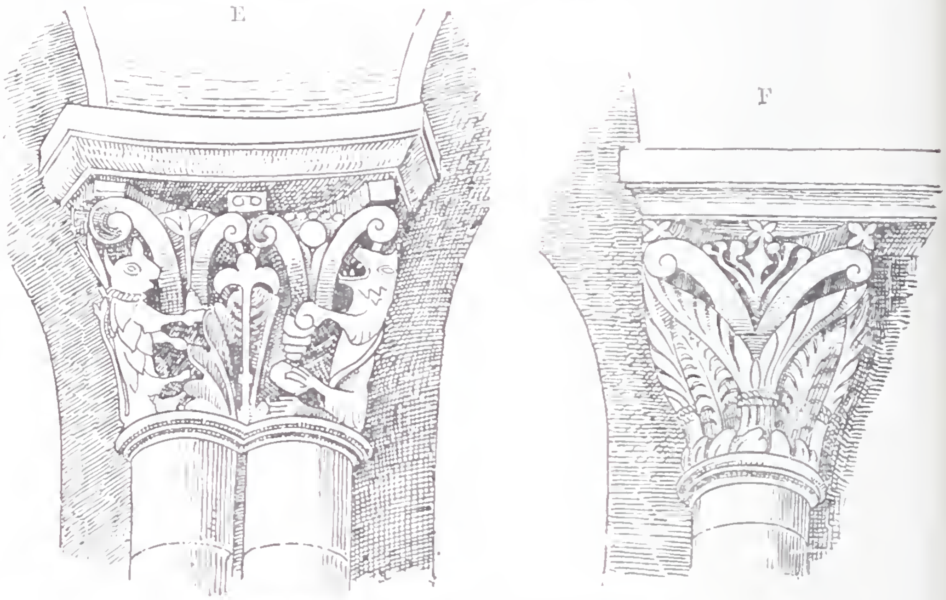
At Avallon, a few miles from Vézelay, is a beautiful set of capitals, in which the acanthus leaf forms the almost exclusive *motif*. It is cut into deep veins, but with considerable refinement, the edges of the leaves being modelled in a way



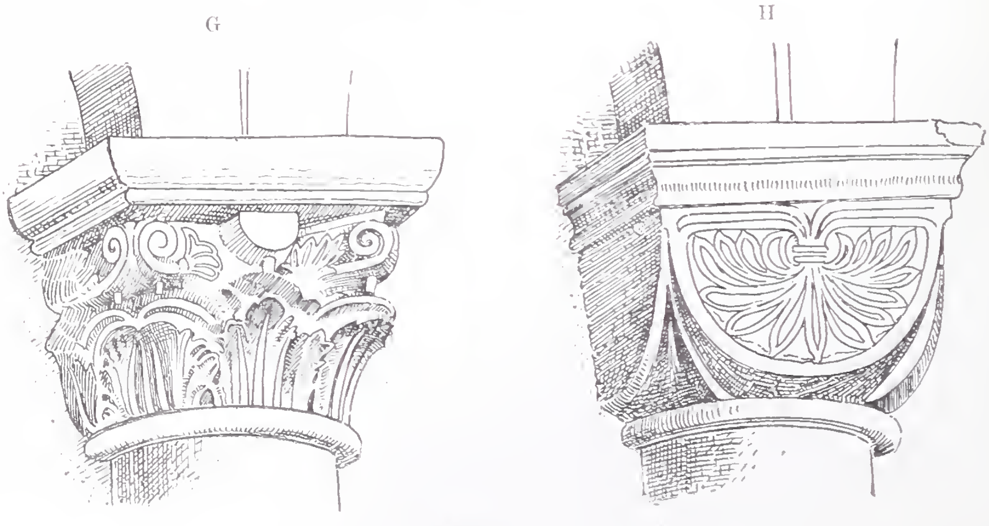
THREE MEROVINGIAN CAPITALS FROM THE CRYPT, SAINT-GERMAIN, AUXERRE. NINTH CENTURY.



CAPITAL IN CHOIR, ROMAINMOTIER, SWITZERLAND.

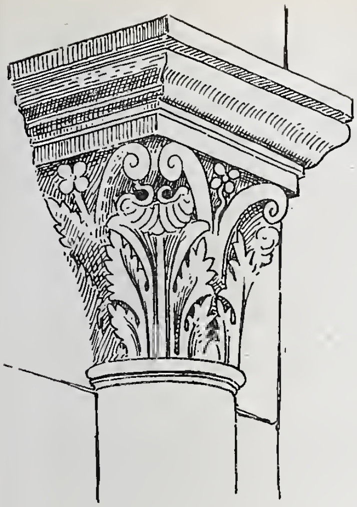


CAPITALS FROM THE INTERIOR OF APSE, PAYERNE, SHOWING SAME CHARACTER AND WORK AS AT VÉZELAY.



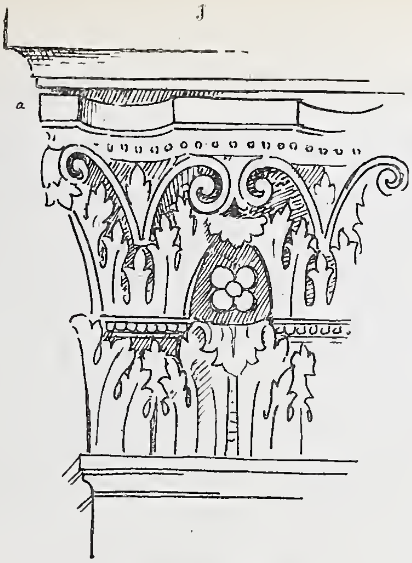
TWO TYPES OF CAPITALS, NAVE, GRANDSON.

I



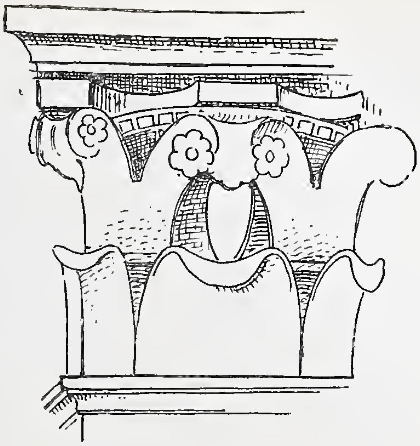
SMALL CAPITAL, NAVE, SAINTE-MADELEINE, VÉZELAY.

J



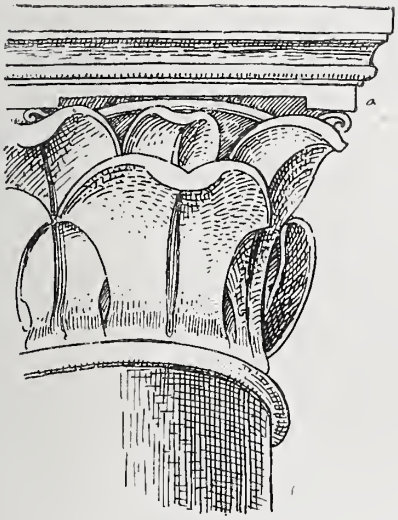
SAINT-PHILIBERT, DIJON.

K



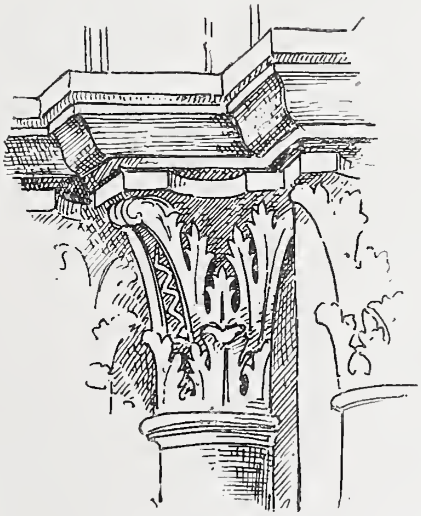
SAINT-PHILIBERT, DIJON.

L



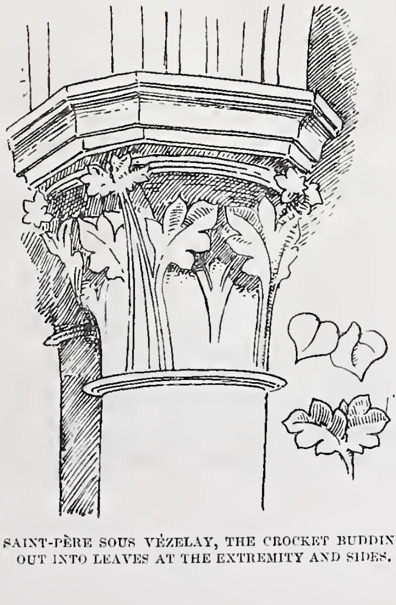
CATHÉDRALE DE SENS, NAVE.

M



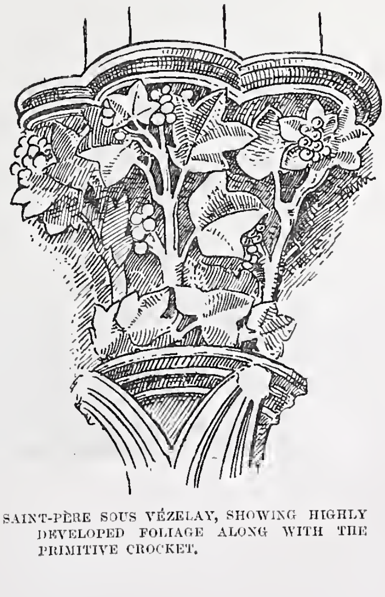
SAINT-PHILIBERT, DIJON.

P

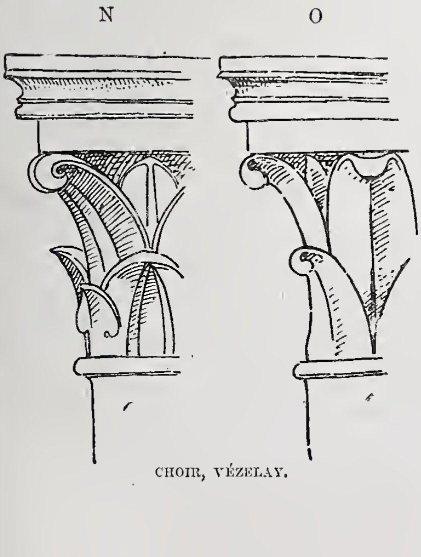


SAINT-PÈRE SOUS VÉZELAY, THE CROCKET BUDDING OUT INTO LEAVES AT THE EXTREMITY AND SIDES.

Q



SAINT-PÈRE SOUS VÉZELAY, SHOWING HIGHLY DEVELOPED FOLIAGE ALONG WITH THE PRIMITIVE CROCKET.



CHOIR, VÉZELAY.

which is predictive of the refined work of succeeding generations in France, and is of a different type from that at Vézelay. The two well-known doorways, as is the case at Vézelay, are quite in the same character as the capitals, and when one sees the same fact obtaining at Dijon and at Auxerre, one can conclude that *the capital is the key to the carving* as a whole. For in all these cases the elements which have been arrived at in cutting the capitals afford *motifs* for the decoration of the arch-mouldings, and the degree of refinement and progress found in the capital marks that of the doorway and other parts.

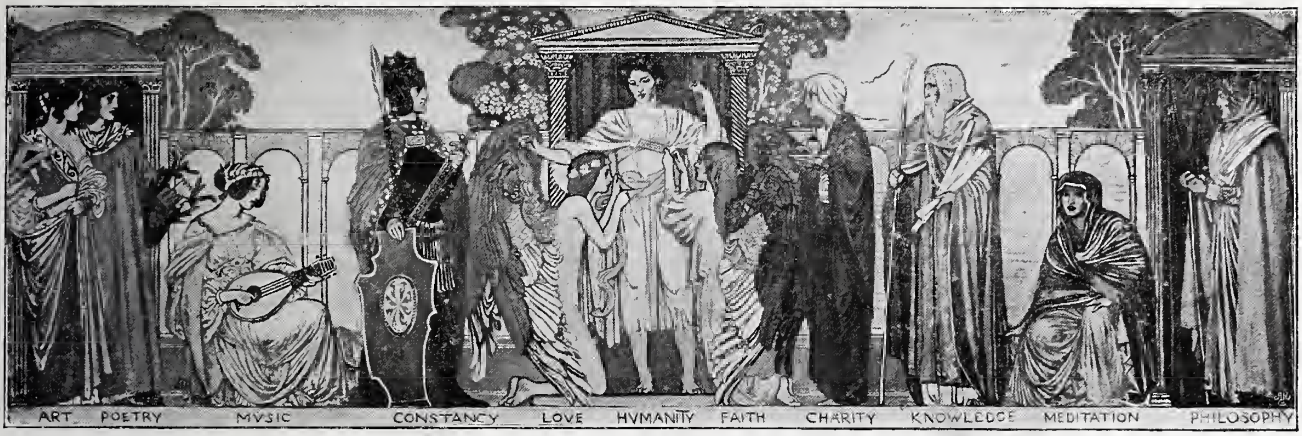
There is, however, a special point very interesting at St. Lazare: along each side of the interior is a bold egg-and-tongue moulding. This has been utilised also in the doors, but the "egg" has been too tempting to be left alone, and has been carved into various representations, one of which is a very carefully cut and expressive head of a woman in contemporary costume, probably a portrait. This little detail is significant of the spirit of the times, and shows distinctly how and when the Romanesque grew into "Gothic." And an examination of such details leads to the same result as does the study of construction—that the "Gothic" element was already developed in Romanesque times, and is in fact nothing else than the result of Gallic inventiveness and spring of character acting on the traditionary basis furnished by the corruption of Gallo-Roman models.

The capitals at the small disused church of St. Martin at Avallon (now a flour mill) show work by another hand, very uncouth, but leading to the perception of the same fact; we see the inventive spirit forging a new way on the basis of old traditions. At St. Philibert, Dijon, the evidence is so plain as to be unmistakable. This church (now a military forage depôt) is difficult to examine, but in the few minutes it was open one could see a series of capitals on pilasters, some retaining the elements of the Roman Corinthian, while others, *though their main lines followed the same direction, were cut boldly into broad leaves* (J, K). But this same leaf-form is found fully developed on one of the nave columns at Sens Cathedral (L), and if we compare this with the capitals of the Trinity Chapel at Canterbury we see that the Canterbury type is a modification of the Sens capital, and that those at Oxford betray the same influence. Hence a distinct line of communication exists, which is further conclusive from the presence of the curved feature between the capital and the abacus (*a*). This, strongly pronounced at Dijon and elsewhere, has dwindled down at Sens, and is no longer found at Canterbury, but can still be seen at Notre-Dame at Paris. If we examine more closely this leaf-form, we see that it is a leaf broad at the base, ending in a point at the top, which turns outward and downward. In a small capital such as that found in the exterior doorway of St. Philibert, Dijon, the acanthus form which suggested the leaf is narrow (M), and its modification gives rise to the hook or "crocket" so common, but which is well seen in the choir at Vézelay (dating 1206) (N, O). This is found abundantly at this date, and spreads abroad far and wide; good examples are found in the nave at Neuchâtel, for instance, and already a slight tendency exists *to cut the hook into small leaves*, or elsewhere to give it the form of a human head—the same spirit which played with the acanthus leaf now acting on the hook.

But this tendency soon became a prominent fact. At St. Père-sons-Vézelay we find already that the "crocket" has become a bunch of naturalesque leaves at the end, and at each side it sprouts out into other leaves (P). Just opposite this capital we can see a *cul-de-lampe* continuing the "crocket," and a quite naturalesque rendering of the ivy leaf and berry (Q).

At the Cathedral of Auxerre we may see the crocket sometimes alone, at other times overrun with leaves, like a hop-pole among the hops, and it is easy to understand how in after times the crocket disappeared and the leaves alone remained, as in the fourteenth-century full-blown Gothic. At the Ile de France another development was taking place, said to be earlier, but it seems evident that there was an indigenous evolution going on also in Burgundy, which interested us in England specially, as it was the basis of the Canterbury work of Guillaume de Sens. It is an example having a still wider interest, showing generally what variety of form may grow by a slow, unconscious evolution out of the free action of the craftsman's spirit. These capitals were never *designed first* and *cut to pattern*, but are, as it were, the free handwriting of the "tailleur de pierre," who cut away as he thought! And it is this unmistakable evidence of the living brain and hand which is so sympathetic and attractive. The cold damp stone is still to-day living by the presence of human thought directly transmitted.

After so much has been said during the Battle of the Styles, in the presence of this continuous evolution one cannot but ask whether there may not have been much ado about nothing. The Burgundian "tailleur de pierre" accompanied the new types of buildings which were evolved by the study of the vault problem with new and personal forms of ornament arising out of the traditional material at hand, without any particular effort or intention, and always governed by a sense of fitness and commonsense. All this is so perfectly harmonious and yet so living it suggests that we should do the same. Instead of copying what others have left, why not allow our own forms to evolve by accompanying the new types of construction every age renders necessary, by sympathetic types of design based on traditional forms, but not repeating them?



Design for Façade of The Horniman Museum. R. Anning Bell, des.

NOTES ON THE PRACTICE OF PICTORIAL MOSAIC.

By Robert Anning Bell.

Read before the Royal Institute of British Architects, Monday, 18th November 1901.

MY subject, the art of pictorial mosaic from the practical point of view, imposes upon me the necessity of repeating to a considerable extent the remarks I made in this room in March last after hearing Mr. Harrison Townsend's admirable paper on the mosaic work of the past, so I must begin by asking those of you who were present then to bear with me if what I am going to say sounds somewhat familiar.

Mosaic is a method of artistic expression which has many advantages peculiar to itself, and which also has very definite limitations. These have not always been recognised by those who have worked in it, and I think that in most late work a courageous ignorance of its limitations has been accompanied by a lofty indifference to its beauties. The latter is a still more persistent characteristic than the former, for the limitations of an art persist in enforcing themselves, however artful the attempted evasion, whereas the peculiar beauties proper to the material may be easily avoided, and very dreary work can be done in quite a good method. It is obvious to anyone who has studied the work of the past that the realistic representation of natural effects, although it has been sometimes remarkably near success, is not the way to get the greatest beauty possible out of the material. And the proof is that the greatest applause ever gained in that direction is the remark that "one almost took it for an oil-painting." As in all crafts, the material itself, its qualities and limitations, is the first thing to study; then, always with a judiciously critical interest, as of one who wishes to see what has been done well, rather than simply what has been done, the work of the masters of the past. They were experimenters in their time, and sometimes their experiments were not happy. Their failures as well as their successes should teach a lesson.

The material itself, the coloured glass from which the tesseræ are made, proclaims itself at the outset as being unsuitable for realistic effects. And this for two reasons. The first and strongest is the uniformity of its surface; the second, the fact that it has to be applied in separate pieces with an interval, however small, between them. The first, the sameness of the quality of the surface, whatever the variety of colour, renders it impossible to get that variety in the texture of the material which is the special reason why oil paint is so triumphantly superior to any other material in the rendering of the look of Nature. The thick impasto, the thin glazes beside or over it, the infinite variety of roughnesses of surface, the quality of brush-work, of work with the palette-knife, of thin sloppy paint and thick glutinous paint: all these help and are necessary for the realisation of the texture of Nature, and all are beyond the powers of mosaic. I do not mean to say that no variety of texture at all is possible in mosaic, because there is a certain amount to be obtained in various ways which I shall touch upon later; but it is so slight in comparison to that of less rigid materials as very strictly to restrain the designer.

The second, the fact that a mosaic picture is composed of definite separate pieces of glass, and usually not varying greatly in size, is another objection; the tints cannot shade off into each other with quite the subtlety of paint, and the interstices between them form a lacework of ground colour and shadow which is the same all over the surface and adds to the monotony of the texture. The effect is similar to that of the underlying grey "gauze" in a half-tone block printed in colour. But whereas the "gauze" is unpleasant owing to its regularity, the parallel effect in mosaic is attractive because the tesseræ vary somewhat in size. In the attempt to get the picture effect the workers have used smaller and smaller pieces in order to shade the tints imperceptibly, and they have really succeeded in making them imperceptible at a little distance. But this grey lacework of the interstices is always there, and is enough in itself to prove the attempt absurd, for, though unseen, it still has its quieting effect on the whole. It therefore seems that the material commands a certain flatness as the effect to be aimed at; and, I think, as a corollary to this, a certain archaism or stiffness in the design. The word archaism, though so often used to define the peculiarity I mean, is not quite fair in this connection. When it is obtained through a more flexible material, such as paint, then I think it is justified, as it implies a wilful suppression of many of the most characteristically beautiful qualities of the material. It is generally the result of an admiration, praiseworthy in itself, though fallacious as a guide, for those early masters whose limited knowledge of the medium did not allow them to use its full powers. They, I am sure, were the last men to be archaic if they had known how not to be; and they would have derided the man who with the powerful medium of oil paint tries to get the faded look of old tempera or fresco.

A third reason may be mentioned. It is that the lights are not so light or the darks so dark as in other mediums, and consequently the strength of effect must be proportionately diminished.

To return. When I say that the material commands a certain stiffness in the design, I mean that the very flatness of effect which its limitations impose seems to exercise some restraint on the style of the design. As you cannot get accidental effects and the fleeting *nuances* of Nature, so you should choose a manner of design which by its severity and simplicity has no occasion for them. You cannot design as Rubens and paint as Giotto. I feel, therefore, that this stiffness or rigidity is not truly archaic, but is the fullest expression which the limits of the material permit; and I feel also that within these limits it gives an artist plenty of elbow-room for his invention if he has any feeling for the method.

From all this it is evident that the subjects chosen for illustration in mosaic must be such as are suitable to a necessarily austere treatment. It is evident that the play of facial expression or momentary gesture is out of court, and that such subjects as depend on these are unsuited to our purpose. The characters introduced cannot be likenesses, or the occasion of their introduction a mere incident; the characters should be types, the incidents symbolic. Mosaic may be used to tell the story of the Creation, to portray the archangels or the goodly fellowship of the prophets, but it cannot be intimate or amusing.

It can be magnificent and splendid, but not humorous. Dick Whittington and his Cat or a company of genial topers are beyond its powers.

I know, of course, that it has been often used for what may be called portraits, as in Ravenna and in San Paolo Fuori at Rome: but the figures of Justinian and Theodora are to be taken as symbols of Earthly Power and Authority, of Law and Justice, rather than as likenesses of a particular wedded pair. They are the Emperor and Empress standing before their Judge. The littleness of earthly glory is the message they bear. The row of popes in the latter is meant to impress the spectator with the imposing chain of the Vicars of Christ, the continuity and power of the Papacy, rather than to interest him in the features of individuals among them.

I have dwelt on this subject of the reasons for archaism or stiffness of the design because I wish to defend what I think the suitable treatment of mosaic from the charge of affectation which is sometimes brought against it and similarly limited methods of decoration, such, for instance, as stained glass. The audience I am now addressing is not, I know, likely to bring such an accusation; but other artists, used to the more fluent and expressive methods of the brush, are often unable to see why mosaic should, as they express it, "have stopped there," and when one of these is given the opportunity of using it, he determines that he will "push it further." The results of this we have all seen, and I think we need not dwell upon them further than to regret that the material is so durable.

We now come to the really practical questions of working and placing the mosaic. I suppose it to be universally agreed that it should be some way from the eye and somewhat higher up—a good deal higher up, I think. I also think that, like many other good things, when you want it you want a lot of it; it is best of all when entirely covering a large space and unbroken by architectural features or mouldings of other materials. This applies more particularly to gold mosaic, which, when covering walls and domes, running round the arches, flashing into a glistening flake of light as it turns the corner, and covering every inch of space above the capitals, as we see it in St. Mark's and in the Capella Palatina at Palermo, is much more satisfactory in effect than when used in juxtaposition with arch mouldings and pilasters, as in many places in Rome or in San Vitale in Ravenna. There is something about the rough surface made by the tesseræ, and the unavoidable unevenness of the plane surfaces caused by the moving of the soft putty into which they are set, which, when the mosaic is dominant in area, makes the masonry look poor and mechanical, and when the masonry dominates makes the mosaic look coarse and untidy. I do not like small panels of mosaic at all, even where they are merely filled with conventional foliage, though that is better than the clumsy look of small figures close beside the smooth and exact forms of the mouldings which frame them. I admit that in very small quantities it may look well; but then it is merely as a set-off to other things, a line of gold to emphasise the leaves in a capital or some such use, and it is merely a minor accessory, not a prominent element in the scheme of decoration. There are some modern experiments in the way of external friezes in mosaic in London; these, when well done, make me wish for more or none at all. I cannot feel that it plays a good second fiddle; it should lead the orchestra.

In interior work, gold mosaic, by which I mean a mosaic treatment in which gold is largely employed, seems to be superior in effect where the lighting is suitable to a treatment in colours only. Blue, perhaps, approaches it most nearly as a satisfactory ground colour, as in the tomb of Galla Placidia, but I do not think it equals it. I have not seen much of the latter, but when I have seen it this has certainly been my feeling, and I think it stands to reason that it should be so. The gold mosaic treatment should be very sparingly lit, and the windows should be as low down as possible. It is not nearly so effective on flat walls as on curved surfaces. The domes and spandrils of St. Mark's and the Capella Palatina hold spaces of changing light and glorious mysteries of shadow which are wanting in the somewhat cheerless effect of churches where it is placed on flat walls only, as in St. Apollinare Nuovo and other churches of similar character—even in Monreale; and the merit of the mosaics themselves does not affect this. The apse is the ideal position for it. Here the illumination is all from below, and the glimmering shifting light and shadows which are its special glory are brought out to the utmost.

For external work—and it is only with external work that I have had actual practice—I am inclined to think that the use of gold is a mistake, and particularly so in this country. First, from the practical side, owing to the construction of the tesseræ, it is likely to be damaged by frost, as the film of glass which covers the gold-leaf is very easily flaked off should any water get into the interstices, as it is sure to do; and, secondly, from the æsthetic side, there is no mystery of shadow to bring out its peculiar beauties; it glitters so strongly in sunshine as to destroy the effect of the design of which it forms part, and it is inclined to look rather garish even in ordinary daylight. In external work a light scheme of colour seems preferable to a deep one. The darker colours have a way of going together and telling as darks rather than as colours in a manner peculiar to mosaic. A sort of grittiness of surface, too, shows more unpleasantly in them than in lighter tints, and also any dirt which may settle on the tesseræ will destroy the darker colouring altogether and make the whole thing look tawdry and squalid. The cooler colours seem pleasanter than the warm ones when used in any quantity. Much orange is peculiarly unpleasant, and even reds should be sparingly employed, and rather as accents to strengthen other colours than in masses for their own sakes. The reason of this is probably because the tesseræ themselves, whatever colour they may be, have a glassy surface, and hence will reflect a cool light out of doors; and, as they are varied in plane, the reflections are bound to affect their colour when in a mass wherever you may stand. Consequently, you never get so rich an effect from your warm colours as would be expected from the absolute tint of the glass; there is as the result a want of quality about them in comparison with greens, blues, and so on. I may say that pink looks very well; but then naturally these cool reflections do not modify it so much. I remember I wanted to get quite a flower-pot red colour in some architectural details in the background of the mosaic I was carrying out last year, and, though when close to the colour looked just as I wanted it, it would not carry. It was only afterwards that I thought of this reason, which I now believe explains it. No doubt in time the surface of the glass will be somewhat dimmed and the reflection will not have so much effect; but then doubtless what will dim the reflections will also dim the original colours, so that it is of no use to trust to time to bring the desired result. Blues and greens tell well at a distance; they have a charming quality, will keep their colour very fairly, though you need to use a much stronger blue than might be expected if it is to be at all rich in effect. In fact, it may, I think, be taken as a general rule that differences of any light tints carry much further and tell much more strongly at a distance than similar differences in a lower key. In whites a very slight difference will have a very marked effect, and it will tell less close to the eye than some way off, whereas quite the opposite is true of strong colours, particularly of red. Difference of quality in the glass has also a marked effect on its carrying power, and the varieties of the glass are very great—some almost transparent, and consequently holding a shadow from the piece above; some as opaque as a stone, and there are all sorts of stages between. With some the colour is a flat even tint all through; others are streaky or spotty. All these characteristics affect their carrying power. They break, too, with a different surface according to their texture, and, as you know, it is generally the edge which is exposed in the work, so this also has its influence. I do not think that anything but practice can help one in this matter, and even that does not seem to help much; it is a new experiment each time. I can assure you that it is very annoying to have to cut away a face which seems quite satisfactory on the scaffold, because it has developed a large boil or other infirmity when seen from across the road. This is a frequent experience, and proves that one should have frequent opportunities of seeing the work from a proper distance.

The size of the tesseræ is another subject for consideration. I do not think that very great differences of size are advisable in figure work. Certainly to have a few large pieces among a large number of small ones is unsatisfactory; they look like tiles and out of keeping with the rest—in fact, they are tiles, as large pieces cannot be the edge, but must be from the surface of the rondels in which the glass is cast, and consequently they have a different quality; the shine, too, which they throw off at some angles is most devastating in its effect on surrounding colour. The converse does not necessarily hold good, as I believe that, if you use mainly large pieces, a few small ones introduced here and there will rather enhance the effect. There is an interesting example of this in Mr. Beresford Pite's mosaic outside Pagani's Restaurant which has been carried out by Mr. Bridge and his assistants, who also executed my own at the Horniman Museum. Here the pieces are mostly quite large—six inches or more across in places, I should think. The smaller tesseræ are used in lines bordering the foliage and for such-like offices. They take their places properly and largely help the result. But the essence of it all is that the large pieces very greatly predominate in the area covered. The interstices between the pieces are scarcely visible; at any rate, they take nothing like the share in the general result which they would have were the usual small tesseræ employed, and the effect is naturally quite unlike what we are used to in mosaic. I should like to see more work done in this method: it has many advantages in a town like London; dirt cannot easily settle on it, and when it does is easily washed off; it is permanent, and, as the pieces are so large, it does not, I should think, demand so much labour as ordinary mosaic. This treatment, however, particularly demands large spaces. I should imagine that it would look very poor in small patches.

In old work the tesseræ are never very large, as far as I have observed. I do not recollect being within measuring distance of one which was an inch across, though I think I have seen them as big some height up—generally used as spots in a pattern on drapery or on architectural features. I found myself that for outside work a scale larger than one generally sees in old work may be used with quite a good effect. I take it that the smaller pieces naturally help the effect of mystery which is wanted in interior work; but, as this is out of the question outside, and the smaller pieces mean much more trouble in cutting and insertion without corresponding gain, it is better on the whole to employ larger ones. The scale of the design—the height of figures, for instance—would to some extent determine this. Naturally, one would use small pieces on small figures, whatever might be the case with larger ones. Another point is that, should you use varying sizes of tesseræ generally over the work, any place where they are kept of uniform size will infallibly attract the attention by its regularity; this was done in a pilaster forming part of the background of the panel at the Horniman Museum, and that particular spot always catches my eye.

The size of the interstices between the tesseræ is another feature of the execution which demands careful study. This is a direction in which we can usefully experiment, as the old mosaic workers seem to have paid it very little attention. Indeed, I cannot call to mind a case in which they seem to have deliberately used it to modify the effect; and I have no reason to believe that they tried it and found it useless—a sort of experiment which one can sometimes see in other arts, where recent so-called developments, often accompanied by much outcry, are simply repetitions of trials which the early men made, and, finding them unproductive, quietly dropped. A considerable variety of texture may be obtained in this manner. In background work, for instance, the interstices can be quite large if the colour is not wanted to be very pure, for of course the dull tint of the putty tones down or saddens brighter colouring. In such parts as faces, hands, or other details to which particular attention should be attracted, they may be quite close together, so making a comparatively solid mass of colour, and giving emphasis to the part. Indeed, in actual practice it would be difficult to work a face without keeping the tesseræ close, as the tone of the interspaces would destroy the quiet modelling, which is all that is necessary or advisable.

The mention of modelling brings me to the subject of light and shade. From what I have already said as to the limitations of the material, it follows that I do not believe in attempting anything like truth of relative values or strength in the general effect of light and shade. Simplicity in the modelling is to be desired. Variety of tone, as much as is necessary, may be obtained by the relative strength of the colours used in different parts of the design. Anything approaching realism of texture in the draperies or other accessories should be avoided; it should be always felt that the trees, buildings, clouds, textiles, and so on, are rather symbols of these things than in any close way representations of them. Any attempt at truthful representation of them only proves its own futility. Of this, unfortunately, there are innumerable examples in the mosaics of the last four hundred years, and much modern work, especially abroad, is following in the same direction. With the rise and development of painting came an increased interest in the study of Nature, and an increased reverence for it. As the mediæval ascetic doctrines of the uncleanness of the flesh and the vanity of the things of this world—and consequently of the representation of them—gave way to the more civilised attitude of modern times, so artists became more interested in reproducing the actual look of Nature, and they became restive under the restraints which the more limited materials imposed upon them. This was particularly the case with the designers in mosaic. Some of the greatest artists the world has ever seen were among the greatest sinners in this respect. The immense authority of Raphael, of Titian, of Tintoret added a fatal impetus to the general movement of lesser men, and assured the degradation of this noble art. It is only in our own time that a real consciousness of the great law that the material dominates the treatment has led us to regard the study of that as the first essential, and to value the work of the past, and see the beauty in it rather as it expresses what is properly within its scope, than when, by some clever trickery, it approaches effects which can only be satisfactorily presented by another medium.

I will now turn to the actual work of putting the mosaic upon the wall. A colour design is first made, and from this full-size cartoons are drawn out as they are wanted. These, in my own practice, I have made in pastel and in watercolour. I found the latter, on the whole, to be the best material, in spite of the advantage of being able always to repeat an exact tint, which is so useful with pastel, as the rough treatment to which they have to be subjected on the scaffold rubs off and defaces the pastels too quickly if they are at all large. The wall is well soaked with boiled oil, and the cement or putty, as it is generally called, is after a day or two applied to it about half or three-quarters of an inch thick. For this putty—there are many recipes; every mosaic worker has his own—you need a substance which will dry perfectly hard without cracking, will not scale off the wall, and will hold the tesseræ firmly; you can make it any colour you wish by mixing pigment with it. I myself do not think much is gained by this in exterior work, as it soon gets a good average dirt colour whatever it may commence by being. In interior work it may be useful; that used in St. Paul's is of a red colour, I think.

Mr. Harrison Townsend, in his Cantor Lectures on the subject of Mosaic, gives an interesting account of the composition of cements. The early formula, which he quotes from Ciampini, refers to the lime cement of the Romans—a simple admixture of slaked lime with Tiburtine marble dust in the proportion of one to three. Occasionally a little linseed oil was used. A formula adopted by the post-Renaissance workers was, he tells us, composed of powdered Travertine, 60; slaked lime, 25; raw linseed oil, 10; boiled oil, 6.

When the putty is spread upon the wall a tracing from the cartoon is carefully pricked upon it. I may say here that you only put on as much at a time as you can cover with tesseræ before it dries; the amount depends on whether you have made the putty quick or slow-drying, for you can vary it to some extent. Having pricked the outlines upon the putty the worker then, with the cartoon beside him, his tray of tesseræ of the right sizes and colours, and his clippers to cut them with for small variations, begins to stick them into the putty one by one. I am speaking only of mosaic-work done *in situ* from the front, as I cannot think that a good result can possibly be obtained by other methods. The usual way of the modern Italians and some English is, I understand, to lay a tracing of the cartoon down flat in the workshop, to match the colours in the cartoon with the tesseræ, placing them on it over the tint they are expected to match, and when the whole is covered, or so much of it as is convenient, the exposed surface of the backs of the tesseræ is covered with cement, which is again covered with squares of slate or other suitable material. When the whole mass is set, these squares are taken up and sent off to be put up in position. The objections to this method are obvious. You cannot see the progress of the work, and it is impossible to make alterations as you go on, should any piece be unsatisfactory. The surface is too flat, as all the tesseræ, being laid face downwards, are on one plane, and, finally, the joints between the square blocks in which it is fixed up often show distressingly. Anyone who has seen the recent restoration of the once lovely apse in the Lateran Church will know how horrible this effect can be. Here the separate blocks of mosaic, being flat in themselves, and being placed on a curved form, are still more in evidence than they would be on a flat wall. To return to the surface method which I employed, there are difficulties to be overcome owing to the weight of the mass of tesseræ dragging in the pliant putty; they may sag down an inch or more in a couple of feet should the putty be slow and the weather warm, and you then have to hack it out and do the piece over again. Then the putty which is displaced by the tesseræ being pushed into it gets bulged out here and there; this is often very annoying when it comes in a face or other important place, as it will give a false impression of modelling, likely to be very disastrous.

In translating the watercolour or pastel tints of the cartoons into coloured glass, a good deal of variety is possible, so that I feel it is necessary to be always in touch with the workers who are actually inserting the pieces, to discuss with them which tint and quality of glass shall be used, and sometimes to vary from the cartoon when the work already finished may suggest it. There is, of course, a great difference in the work done by different workers; the translation of a given piece of work in the cartoon by half a dozen executants would vary considerably, and the artistic quality of the result would vary as their own. For the setting of the mosaic is an essentially artistic craft; it is quite absurd of the designer-in-chief to say simply: "Here is my cartoon; take it and copy it exactly." It is impossible to copy it anything like exactly, and consequently complete co-operation between designer and craftsman or craftswoman—for it is one of the things that women do admirably—is absolutely necessary. If you are doing the cartoons, as is most probable, bit by bit as they are wanted, there are sure to be practical points to be settled. You may want to repeat a colour already existing in an executed part; you can no more copy in paint or pastel the exact shade of the glass than the worker can copy in glass the exact shade of your material, and so you must settle it on the scaffold. The quality of the glass, as I have already said, varies very much. The choice of this has to be settled frequently; and then the width of the interstices and the size of the tesseræ also call for discussion. So that if you do not keep in constant communication with the workers you are not likely to get the result you want, and you may get a rather lifeless one.

To conclude, mosaic is, to my mind, the most splendid, as it is the most permanent form of wall or ceiling adornment. But it is extremely arbitrary, and any attempt to stretch its limits is terribly punished. It will not easily put up with rivalry, and will not endure other methods of decoration in immediate juxtaposition. In interior work it quarrels with stained glass, and it destroys gilding, as may be seen in many a Roman church where the choir-arch and columns are gilt around an apse of mosaic. Outside, the mosaic must be made the dominant in the scheme of which it forms part. No colour can stand near it but in humble subordination, and its surface texture requires considerable art and discretion in the choice of neighbouring materials. Nobly used, it nobly repays; ignobly used, it can do nothing but disgust.

DISCUSSION OF MR. ANNING BELL'S PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. GEORGE FRAMPTON, A.R.A. [*H.A.*], in proposing a vote of thanks to Mr. Bell for his Paper, said that the author, like Mr. Crane, Mr. Spence, and other workers in this very beautiful art, were doing a great service to the art of this country and to architecture, and that lovers of art should be grateful to these gentlemen for devoting their attention to the placing of mosaic and other decorations on the same level as the fine arts. He knew personally a good many of the workers in this material on the Continent, and he thought that without flattering them and without flattering those in this country, we had in about half a dozen men, including Sir William Richmond, the finest workers in mosaic in the world. Titian and other great artists did mosaic, but they utterly failed, because they had no knowledge of architecture. A man could not be a decorator unless he had been through a course of architecture or had some love or appreciation for that art, for architecture should govern all the arts. He could not, of course, defend the character of some of the external mosaic work to be seen in London, but the more colour they could get outside their buildings, especially in London, the better. At the same time he did not think that colour should be the first thing. He had been much struck with the ornamental treatment of colour in the Grand Palais and the Petit Palais in Paris. It struck him as being a rather nice idea. A frieze was put up under a great colonnade with columns in front, and in the effect of that row of columns the colour was very fine; it was very delicate in scheme and it harmonised with the stones. He agreed with Mr. Bell that strong black shadows should be avoided, as they seemed to give the effect of a series of holes in the wall. A good example of that was to be seen in the Panthéon at Paris, where some of the French artists had tried to be decorators and utterly failed. The only man who succeeded there was Puvis de Chavannes, who had taken the surface of his picture as part of the building. That picture of his really supported the building; it was on the surface of the wall. The others gave the effect of there being so many holes in the wall. One saw right through them in perspective. He would advise students to study this work on the Panthéon, for it would teach them more than anything the meaning of decoration, which so few people understood. What was wanted in decoration was the mind of the man—his own individuality, and his appreciation of the surroundings of his work, which Mr. Bell always gave. Another thing he would like to impress upon architects—because he had been through it himself—was that a successful decoration could never be got from a firm. When they took their work to a person whose one idea was to get a certain profit, he gave it to a workman, who as a rule, had very little or no feeling for art; and so it passed from one to another, and the result was that they got a very bad thing which spoiled their building. It was with very much pleasure that he proposed a vote of thanks to Mr. Anning Bell, who had always had the right kind of feeling for decorative work. He was one of the few men who understood what was required to make a beautiful surface without making a hole in the wall.

Mr. WALTER CRANE, in seconding the vote of thanks, said it was difficult to add anything to so complete, practical, and artistic a paper, in which Mr. Bell had gone so thoroughly into the subject from the worker's point of view. It was a very great advantage that they should have an artist who was willing not only to do the work in his own way, but to discourse upon it, and who had the power of expounding so clearly his principles and methods of work. He found himself so much in agreement with Mr. Bell's principles, not only as to the place of mosaic, but as to the true character and dignity of the art and its limitations, that there were very few points on which he should differ from him. There was one minor point on which he made an ingenious comparison between the network formed by the cement lines in tesseræ and the textile lines which occurred in a half-tone process block; but whereas the former was an agreeable condition, the latter was a disagreeable one. The network of a mosaic was a pleasing thing; one really delighted in it as an essential part of the work; it was in the nature of a builded wall and strictly a surface construction; and few things were more satisfactory than the simple joints of well-laid brickwork. In an irregular fashion one got that, too, in a mosaic, and it was a pleasing thing in itself. Mr. Bell made some suggestive remarks about a possible extended use of those joints, making them more open or narrower; and probably one might regard the putty or the joints, which were an essential part of the work, very much in the same way as one would regard the half-tone of the ground in painting; for instance, in working in gouache on brown paper, one frequently left the paper in large interstices to speak for itself; it fell into the general scheme and helped the effect; so in mosaic, one might fairly regard the more or less brownish interstices as a kind of half-tone on which to impose colour. As regards the use of gold externally, most of them must have felt what Mr. Bell expressed—that there was a certain glitter, a garishness, in it as used externally. That, he fancied, would largely disappear perhaps if it were not applied to a perfectly flat surface; but he was inclined to think that in no case did gold look well on a perfectly flat surface. A curved or concave surface was generally much finer, owing to the variation and gradation which the shadows gave; also gold told well in half light when the design upon it was thrown into bold silhouette. Mr. Bell had spoken of the impossibility of reproducing a cartoon. He (the speaker), however, had made designs for mosaic long before the present method of working *in situ* upon the surface was revived with so much success. He remembered making some designs at the instance of Professor Aitchison for the Arab Hall in Lord Leighton's house, and those were executed, he believed, by the Murano Company. It was then necessary for the designer to make an exact cartoon, tesserating the whole of it, and marking all the joints in black, and he was very much astonished at the facility with which those designs were reproduced after the method Mr. Bell had described—viz. by laying down the work and filling in the putty and cement bed from the back. The tesseræ were given with the utmost exactitude, and the matching of the colours, allowing for difference in translation of the dead colour of the cartoon into the brilliant colours of the glass mosaic, was simply extraordinary; and even when designs were worked on this method he believed they had some method of giving a little push to the tesseræ, in parts, to get more variation of facet in the gold of the background. One should "give the devil his due," and it was only fair to say that those panels would bear examination as good workmanship so far as exactitude and precision in the reproduction of the cartoons went.

Mr. C. HARRISON TOWNSEND [*F.*] said he rose at the President's invitation to support the vote of thanks to Mr. Bell for his very interesting and very lucid lecture, and he did it with the more pleasure remembering, as he did, a year or two ago spending a very happy five or six weeks in Rome with Mr. Bell in collecting material which had, he thought, helped him to formulate the views put before them in his Paper. With Mr. Bell's introductory remarks on the principles of mosaic no one could help agreeing. Particularly did he feel the strength of Mr. Bell's argument on behalf of what he pleaded for under the somewhat unhappy name of "archaism." A certain formal, a certain conventional feeling which was given to the treatment of the figure, and the expression of the elements of Nature in mosaic work, unhappily was apt to be classed, by those who did not understand the conventions and limitations of the material, as an attempt, and a wilful attempt, to imitate the method of work of those who had preceded them. Mr. Bell had made it clear that that stiffness and conventionality did not proceed from an attempt to imitate. As in architecture, so in every kind of decorative design, the attempt to be otherwise than as we are, and as our conditions allow us to be, was doomed to failure; but for a man frankly to allow himself to be influenced by his material, and to shape his design according to the limitations of this material, was to show himself an artist who recognised the medium in which he worked. To work in mosaic necessarily implied certain limitations which one had to recognise and accept, and within which to do one's best. Those limitations robbed the artist of many of his proudest attributes. The artist in mosaic was deprived of his hope of appealing for effect to *nuances* of atmospheric change; the glory of the sunset and the romance of the moonlight were nothing to him; his atmosphere was another atmosphere than ours. His faces were symbols—not expressions nor imitations of sentiments. His trees did not represent the trees of Nature, with the glittering of the sun or the tender light of the moon; they again were symbols, emblems of trees. But the artist in mosaic had some compensation for sacrificing his artistic attributes—he was able to work in the one imperishable material that a picture could be painted on, the one material that could resist all but fire; it could stand water, it could stand London fog, it could stand all the vicissitudes of climate and be uninfluenced in colour; it could hand down, as the Ravenna mosaics and as the Sicilian mosaics did, to men, 1,000 years after the artist had perished, his colour scheme as he left it, undiminished in brilliancy, as might be his picture in oil, unfaded or unrotted by damp, as might be his fresco. That was a great privilege, and one worth sacrificing some of the other sides of one's nature in order to attain. As regards Mr. Bell's interesting reference to the technique of mosaic, he had touched upon the cements at some length; but there was one interesting fact—viz. that the decadence of mosaic work, curiously enough, coincided with the attainment of the one perfect cement. Up to the early years of the sixteenth century mosaic workers contented themselves with working in lime cement; Muziano di Brescia in 1528 was the first to work in oil cement. That meant that he and those who followed him attained the power of working in a material which allowed them to obtain, with deliberation, effects which were impossible when they were working in a quickly-setting cement—using cement in the architectural sense—a lime-cement. The oil-cement, of course, opened up another field to the mosaic workers. It allowed them deliberation and the power of altering. Instead of having to do their work quickly and in a go-as-you-like kind of way to get it done while the lime was plastic enough to work, the oil cement gave them the opportunity of attempting things they had hitherto not dreamed of. This was undoubtedly one of the factors that led in the Renaissance and post-Renaissance times to the decay of mosaic design. It allowed them to think, and to delay, and to try for more ambitious ends than they had ever attempted before. He hoped that some among those present would tell them something of interest on the subject of cements. A design might be good; glass material was virtually everlasting; but what good was the most able design, and what value the most perfect material, if it was set in a composition that would not endure? He hoped to hear from Mr. Bridge and Mr. Spence something of value as to the way in which to render a design of merit permanent when executed in material of lasting value.

Mr. T. R. SPENCE said he thought the technical part of mosaic work might well be left to the man who had to carry out the work. That was a matter they need not worry much about. Now that there was a general and growing interest in the use of mosaic for decoration, its treatment should be approached in a practical and common-sense manner. In all schemes of decoration the great battle lay in the design, its suitability and its application to the right spaces, so that, as in all decorative art, no man should embark in its practice unless he possessed the rare gift of design. Great discrimination should be exercised in the selection of the surfaces to be covered with mosaic. In every case such selections should be of spaces which at all times would have shed upon them the toning and uniting qualities of light and shadow. All interiors possessed these conditions more or less. External, flat, shadowless spaces were not quite satisfactory in this respect. They were always in one of two conditions—either in bright light or else in unflecked shadow. Granted that these panels or friezes might be good schemes of colour, yet they were shorn of the added charm of permanent variety and mystery. In the actual material the more brilliant and solid the colour the better. He used to be delighted to get the slabs of material which had delicate gradations of colour in each piece, but when they were cut up and fixed all these gradations were lost. If you are right in the first place with the surface to be covered—being under a fixed condition of varying light and shadow—this light and shadow will give naturally the subtlety and mystery without destroying the effulgence of the colour scheme. Deep, almost crude tones become rich and mellow, not impoverished. His meaning might be made clearer by mentioning Titian's wonderful blue drapery, the shadows of which were a deep red. One should be liberal in one's areas of colour, and not fritter them away by intersecting forms of ornament that in themselves are small in design. Drapery forms, fine in the designs of their lines and folds, are sufficient for the particular spaces they cover. Great spaces of blue or other colours in such forms as a dome, let its tincture be ever so crude, become harmonious from the natural shadows of its shape and the soft reflections of surrounding objects. The shadows and reflections are a broad and sweeping tone of softening unity. No mosaic, he thought, should be nearer the eye than ten feet. Its function was to express the sentiment of colour, and not to usurp such attributes as needed all the delicate and far-reaching craftsmanship capable of application to marble, metals, wood, etc. Some advocated that in the application of mosaic internally all mouldings and architectural features in any other materials should have no place. The vision of its success, however, had no place in his dreams. To him the juxtaposition of many and varied materials was inseparable from a really triumphant scheme of decoration. Jewels owed a large debt of gratitude to their setting. Figured subjects should be used where they suffered no distortion of their form. The treatment of figures on a dome, unless they were in perfect outline, was not, to his mind, satisfactory. Some asserted that figures should be drawn in simple lines without modelling. His experience led him to think that they should be modelled to a considerable extent, for when the mosaic was carried out its crudity came very far short of the modelling on the cartoon, yet it added a quality of colour much more interesting than flat spaces filled in between hard black outlines. He need hardly say that the design should be in unity with the architecture. It should not belittle its details, but rather add to the expression of its parts. His idea was that no decorator, in the treatment of a large figure-subject, could afford to drop certain simple architectural forms in the actual picture which were of the highest importance as details to bind together its composition. He did not mean that details of the enclosing architecture should be reproduced or carried into the picture, but only such simple details as would give it those rigid and geometrical lines which unite and save it from chaos. In mosaic they possessed a brilliant and permanent material for decoration, but, as in the making of a fine piece of architecture or any other work of art, they must come down to the bed-rock of creation—conception, design, call it what one will; the all-important need is the man who can capture the beautiful, and has the practical sense to apply it rightly.

Mr. GEORGE BRIDGE said that he thought Mr. Bell had made a slight mistake as to the thickness of the putty when put upon the wall. Many architects thought that two or three inches were required for the whole mosaic, whereas the whole mosaic from the wall only took up an inch—an inch was ample—and the putty put upon the wall need only be half an inch thick; so that when the tesseræ were pushed in about a quarter of an inch of putty was left behind. As regards the composition of the putty, the putty that he had used was lime and boiled oil. The great thing was to see that the lime was old—a year or two old, sometimes three years old.

Mr. WILLIAM BRINDLEY, F.G.S., said that much had been said by Mr. Bell and others as to the durability of enamel mosaic. There could be no difference of opinion about this, but as to the cement composition for fixing the tesseræ, it was doubtful if the modern oil putty cements were preferable to the old Byzantine lime mortar ones, either of fine sand and lime, or marble dust and lime. Much of the latter, he believed, was produced from white marble, being only three-quarters burnt, the unburnt portion having become disintegrated into single grains, so readily crushed up. This process was still continued in Greece, as he himself had seen at Patras a mule going round turning rollers and fine-crushing the burnt marble. Slacked run putty lime was often prepared in the East years before it was used, and he thought albumen obtained from bullocks' blood was often added to it, and calcined sulphate of lime in some cases was mixed with it; the albumen then would produce slow setting. The marmoratum with which the fluted Greek columns of rough stone in Sicily at Girgenti and Pompeii were coated about the thickness of a penny was, in his opinion, old lime putty, produced as above, and mixed with albumen and rubbed up to a glimmer polish, probably with bleached bees'-wax and fresh soft resin and oil. This might account in some way for its durability. Each mosaic-worker now had his own recipe, and only time would prove if the modern method was better than the ancient. It seemed to him that if they went in for new cement, which was a chemical business more or less, they would do well to consult such able chemists as Professor Church. He thought the Byzantine method of application was the ordinary one, as used now for rough work, by sticking the tesseræ on a cartoon and transferring it on to the cement. This, he believed, was proved by the concave surfaces having closer joints than the convex ones, which would be the result if fixed in sheets. He also thought that the cost of production of a large dome surface by fixing of single tesseræ would be almost prohibitory, and he did not see the gain for work indifferently lighted at a great height. The domes of St. Mark's had the effect of huge inverted polished brass cauldrons, enamelled with coloured figures. The surface was not disturbed; it had a solid architectural metallic look, and the tesseræ were of an average medium size. He dreaded to think what would happen to some of the recent mosaic in long years to come, where almost small tile sizes were used. Surely the key to these big pieces must be weaker than when smaller tesseræ were used.

Mr. WM. WOODWARD [*A.*] said there was one particular in regard to the embedding of the tesseræ in the cement upon which he thought Mr. Bell might have descanted a little more fully. There were two methods as he understood. One, to embed the tesseræ so as to produce a flat surface, and the other to embed them at an angle so as to produce a series of facets. Examples of both methods could be seen at St. Paul's Cathedral. In the cupola of St. Paul's was some mosaic work laid many years ago by Salviati; this was laid so as to produce a dull flat surface. To his mind, the money expended upon that particular form of mosaic had been to a large extent wasted; a similar effect could have been obtained at considerably less cost. Turning from this to some of the mosaic work done by Sir William Richmond, where the tesseræ, in order to produce certain effects, had been produced angle-wise, the vast difference between the two methods struck the eye at once. The one, Salviati's, was absolutely dead and lifeless; while the other was perfectly brilliant and reflected in its various facets those grand tints, varying as the light struck the different facets, which to his mind were essentially beautiful. This was an effect which he thought Mr. Bell might admit we should to some extent strive to produce.

Mr. E. W. HUDSON [*A.*], referring to Mr. Bell's disapproval of any attempt after portraiture in mosaic work, said that at the Brighton Museum there was a portrait of King George IV. upon some six feet of surface produced by he did not know how many thousand pieces of small tesseræ—the idea being evidently to represent an oil painting at a distance. To his mind, any greater misapplication of ingenuity, perseverance, and money could scarcely be conceived.

Mr. THOMAS BLASHILL [*F.*] said he should like to ask a question about what he might call a modified form of mosaic, if, indeed, it could be recognised as a form of mosaic at all. All would agree that the cost of mosaic would prevent its being very largely employed, and that in itself was a pity, because out of a large amount of work excellence was more likely to be obtained than through the limitation of practice likely to result from the extreme cost. The particular example he wished to refer to was in France, at the Château of Chenonceaux. On the left of the entrance to that building there was a formal garden, and the wall which separated the garden from the river had a parapet something like three or four feet high, the inner side of which was plaster, and in the plaster was set an arabesque pattern of pieces of stone of different colours, he believed. That, of course, did not compete with whole mosaic, such as they were discussing; but it appeared to him to have an interesting appearance and effect. He was sorry to say it had not stood very well, and he was afraid in this country it would wear still worse than in France; but it seemed worth noticing, and perhaps, if a better kind of plaster could be invented, and a good deal of work could be done, something might be brought out as an alternative form of decoration to large surfaces. He should be glad to know whether anyone could tell them anything that might be useful for or against the particular kind of work which he had spoken of as existing at Chenonceaux. In his own practice he had had a certain amount of mosaic done, and had experienced some of the difficulties which had been alluded to that evening. The flat-surface mosaic, such as that referred to by Mr. Woodward and Mr. Hudson, was to be seen in perfection probably in those great pictures in St. Peter's at Rome. The last time he was there he believed one of the original frescoes was left; but now the whole of the grand pictures had been reproduced in mosaic, and, as they probably knew, in the great workshop in the Vatican itself. He had also examined rather closely some of the mosaics in Ravenna, and the carelessness of the structure when viewed close to was remarkable. As far as he could make out, a large quantity of those pieces which seemed to be mother-of-pearl were certainly dabs of white paint, unless they had been restored during the last few years. In his view a design for mosaic should not be made out with all the detail of separate pieces so as to be slavishly copied. It should be drawn by an artist practically acquainted with mosaic work and translated by himself or by another artist into mosaic. Thus Turner used to draw for the engraver, whose work he corrected if needful.

Colonel LENOX PRENDERGAST [*H.A.*] said they had to thank Mr. Bell very much for his Paper, and still more perhaps for having brought out the interesting remarks from several of the speakers who followed him. He confessed to having been especially struck by what fell from Mr. Townsend, who touched upon a point that was most desirable to be thought about by those who would have to carry out mosaic work. It appeared from what Mr. Townsend said that at a particular period a different material was found in which to embed the tesseræ. That seemed to have affected the design, and the point he wanted to bring out was this—for one knew perfectly well what would happen if this method of decoration went on—people would become, as they had unfortunately become in certain other things, merely archæologists. Back they would go to Constantinople and St. Mark's. He saw it as plain as possible—we should never get beyond that. Nobody would for a moment disparage the great workers of Constantinople at St. Sophia and St. Mark's at Venice. They all belonged to the same school. The whole of it came from Constantinople, and, *pace* the reflections of that great man Gibbon on the subject, Constantinople was the headquarters of the art, the literature, and the science of the time. That had been proved within the last twenty years beyond all question. So that it was not on the artistic side as such that he pleaded for a little caution in merely copying their work, which was splendid of its kind. Constantinople sent out the finest of enamel work, the finest carved ivory, the finest material for vestments, the finest things for court purposes that the world had then seen. But they reflected the particular period in which they were produced. Why were we to go back, as he ventured to think we should if we did not take care, and reproduce in the buildings of the present day merely what passed through the minds of the artists of Constantinople centuries ago? If the words of Mr. Bell were to be taken as our text-book, that everything after a certain period was inartistic for this material, we should make no progress at all. He would just venture to say (and he addressed his remarks to Mr. Townsend especially) that in St. Mark's at Venice they would find one chapel, the Chapel of St. Isidore, with, to his mind, very beautiful mosaic—doubtless it would be condemned by Mr. Bell as being insufficiently rugged; but it was in the material, strange to say, which was employed for the work before the discovery of that mentioned by Mr. Townsend. At present, the reason of the revival of mosaic in this country was because it would wash. That was its great recommendation; that in this smoky atmosphere of ours we could have a decoration that would not be destroyed. Do not, he ventured to plead, tie us down to archaic design simply because we want to get an indestructible material. He was not finding fault with what had been done before; and he did not agree with Mr. Bell's statement that "the mediæval ascetic doctrines of the uncleanness of the flesh and the vanity of the things of this world, and consequently the representation of them, gave way to the more civilised attitude of modern times." It was simply the fashion of the period which dictated design, and why, he asked, should we tie ourselves down to one period?

The PRESIDENT thought that Mr. Bell's statement, that the expression which the limits of the material allowed should be our guide in designing mosaic, was a truism that we could not get away from. It was shown in the different effects of certain mosaics. Take, for instance, those at St. Peter's at Rome, which were copies in tesseræ of certain old paintings, if he remembered rightly. If we compared them with the examples of mosaic at Santa Maria Maggiore, or at St. Mark's, or at Pisa, the two things were entirely different. To any man of cultivated taste those at St. Peter's could not compare with the others. Notwithstanding what Colonel Prendergast said, he did not think they could avoid a certain amount of archaism from the material they proposed to use—indeed, the more archaic it was, the better the mosaic to his mind. With regard to gold mosaic, he agreed entirely with Mr. Bell that for external work it was not very satisfactory, whether on a flat or on a curved surface. Mosaics in the atmosphere of this country were apt to look garish, like very bright dresses on ladies on a foggy day. In India, where the sun was very bright, the colours of the mosaics were exceedingly harmonious—they were dull greens and blues and neutral tints and whites; although they were brilliant in general effect, there was nothing garish about them. As to leaving the tesserating of the design to the workmen, he could not think that that was right. The expression of the design depended greatly on the tesserating, and he did not think that a man could have his cartoon properly expressed by a workman who puts in the tesseræ perhaps from his own idea; he had seen specimens of mosaic done in that way, and the tesseræ had been higgledy-piggledy all over the surface. When he was in Burges's office (and in fact since, when he had had mosaic work to carry out on his own account) he used to draw out every single tessera, and show exactly where the joints were to come, and he was inclined to think that was the right way. The old mosaics were generally arranged methodically, in order to get that archaic effect which Colonel Prendergast decried. The colour of the interstices was a very important thing in mosaic. His attention was drawn particularly to this some years ago when Street was doing the Guards' Chapel. The marble mosaics there were a little higher than level with the eye. First of all they were fixed in some material—he did not know what—and the interstices and joints showed a light colour. He was charmed with them the first time he saw them. They looked like frescoes, having that "sucked-in" appearance. The colour was beautifully soft and delicate, and sufficiently near the eye to be appreciated. Some little time afterwards he found that the figures had all the little joints raked out; they had practically been pointed over with dark cement, and to his mind the effect was entirely spoilt. He was in the Guards' Chapel a few Sundays ago, and he still thought they lacked the charm of colour they had the first time he saw them. There was not the slightest doubt that the greatest difference in effect could be obtained by thickness and colour in the joints of the tesseræ. With regard to the size of the tesseræ, personally he did not like the large pieces, though that, he supposed, was a matter of taste. There was a marked difference of effect between mosaic in large pieces and that in small tesseræ. He did not mean minute tesseræ like those in St. Peter's; but large pieces of mosaic always suggested to his mind the difference between *appliqué* work and embroidery. The one was a highly refined, finished piece of work, and the other seemed an easy-going, coarse method of getting over the difficulty.

Mr. ANNING BELL, in responding, referred to some of the points raised by speakers. Colonel Prendergast, he said, rather disputed his idea of the treatment proper to mosaics. Perhaps he had not sufficiently expressed his feeling that it was not archaism. He did not deduce what he thought was the proper treatment from the old work, but from the nature of the material itself. He did not think the work could be done in any other way to make it look well. A great deal of realism could be got, but in doing that the beauty of the material was sacrificed, and only a very poor painting resulted; whereas this glassy, stiff formal material was a beautiful thing in itself, and did not fail at a thing which another material would do better. He did not clearly recall the chapel of St. Isidore, but that fact showed, he thought, that personally he was not very interested in it. He had seen a good deal of work of that kind, and very able work too; but, to tell the truth, he rather thought that it was playing the fool with mosaic to do that sort of thing. Mr. Spence rather disputed his idea that mosaic should dominate to the extent that he thought it should. Mr. Spence thought it went well with a lot of other materials. He (Mr. Bell) did not think so. In an apse in a church it looked well with other things all around, but it must be remembered that in most cases of old work the apse was generally the best thing in the church, but, as a rule, the rest had been knocked to smithereens and restored, so that it was rather hard to say that one had data to go upon in saying that. He himself felt that it was very much better where there was a great deal of it. Mr. Spence also said that outside mosaics should have variety and mystery. He did not quite see how that was to be got. It would be nice, but they could not get variety outside in a bright light. The light treatment was the right treatment, because one got a whole treatment that looked harmonious with relation to the stone and things round it. As regards the point Mr. Brindley raised, that the old work was done on the flat and then pressed face downwards, he did not think the point of its taking so long to do affected those people particularly; they had a good many centuries to do the work in, and, even when they did it quickly, they employed a great number of men. He had been told that at the church at Monreale it took 133 artists ten years: 133 artists could do a lot in that time even bit by bit. After all, it was not quite so much longer than the face-down method, in which the putty was applied over the top of all the little bits, because they had to match each little bit upon the cartoon. And certainly by this process they did not get the play of facets which another speaker desired. He had not, perhaps, sufficiently enforced his point when he said that the unpleasant effect of the face-down method of laying mosaic was because it was so flat. He meant from the front. They could not help getting a constant variety of plane by the natural touch of the thumb in putting it down when it was worked from the front. He agreed about St. Paul's that the old mosaics were very poor mosaics and nasty-looking things; and Sir William Richmond's, although they were done in an excellent manner, were perhaps a little exaggerated in treatment. He had got a little too glittering and shining an effect; and, if he might dare to say such a thing, he thought the designs of Mr. Watts were not things for mosaics; they were rather florid for that kind of treatment. He was interested in hearing Mr. Townsend's point that the old mosaic was only invented in 1528, which was afterwards commented upon when we were asked why we should stick to the earlier work. He did not think it was a question of having no medium. It was simply that the earlier work could not help being more limited, the materials being so limited that it was difficult to get outside them. When once they got a chance of doing clever things they did them. It was just the same as in all other forms of art. The history of all other arts was, first of all, that a savage man must have a pretty strong impulse to want to do anything at all, except kill other people and get things to eat; he did not know much, and had to fumble about, and slowly he acquired the power to express his ideas. While it was difficult to express his ideas, he wanted to express them to the best extent, but it was so hard that he was pretty careful about the ideas that he expressed. But when he got easy with his material he wanted to do things that were clever in it, to do things which were difficult of execution, and didn't bother so much about his ideas. And so every art on those lines rose and fell. It was just the same with the old Greeks. They began by being extremely simple and restrained, then rather loose in outline, and then extremely facile, and then like the French comic drawings, with just the same little tricks and dashes. He did not want to take the early mosaics (of which he approved) as being the only examples to follow because they were of that period. He did not wish to say that the later ones must not be followed because they were later, but because they were not such good mosaics. He thought the later ones went wrong because they did not try to do what mosaic naturally does well, and that the earlier workers kept within limits, of which they were probably unconscious, but which are the laws of the material. We should look at the stuff and see what it can do, and then do all we can with it, but we should not try to do more than it can do. He was interested to hear Mr. Crane's remarks about the cartoons being reproduced in work that he had done. He agreed that it could be done, but, all the same, in his opinion it was not a desirable method: and he felt he was rather at issue with the President there, as he (the speaker) was of opinion that the workmen should be given some play along with the artist. Workmen differed so much in their power of carrying things out that one soon found out which of them could do the better work and which the easier work, and one could allot the work accordingly. And then there was a kind of variety got. The differences of tint were dependent to some extent upon other people round the designer. He could not quite think it out on his cartoon, because it was not shining glass; but he could talk over bits, and if he did not like a bit he could have it altered and discuss it with the men. But one ought to get a good class of workmen who had an intelligent interest in the work. Then there was one other point. Mosaic was not against realism: it was beside it; but he thought that it showed the advantage of not being able to get realism, that mosaic was one of the very few arts in which one was forced by the necessity of the material and the limitations of the material to a rather higher plane of thought, or at any rate into somewhat lofty subjects which could not be expressed by clever interesting execution. Elemental facts, the great verities, Time, the Judgment, Life—those things were best treated in something which could not remind one of other clever things in the same material as a painting might. It had just got to be austere and definite—a sort of raw presentation of the idea only, with no drapings or ornament to it. Mosaic did that, and so it was peculiarly useful for religious work.

9, Conduit Street, London, W., 23rd *Nov.* 1901.

CHRONICLE.

The American Institute of Architects.

The Secretary has received the following communication, dated Washington, November 9, from Mr. Glenn Brown, Secretary and Treasurer of the American Institute of Architects:

"The cable dispatch from Mr. William Emerson, the President, and the letter of Mr. W. J. Locke, the Secretary of the Royal Institute of British Architects, were read to the American Institute of Architects in convention assembled at Buffalo within the grounds of the Pan-American Exposition where the shot was fired which caused the death of William McKinley, the beloved President of the United States of America. The members of the American Institute of Architects in convention directed its Secretary to communicate to the Royal Institute of British Architects its high appreciation of the words of sympathy expressed by the officers of the Royal Institute and its recognition of the fraternal relations which exist between the architects of the 'Mother country' and those of the United States."

Reinstatement.

The Council have reinstated as Associate Mr. William Scott [*Soane Medallist* 1877], of Casa Palmerino, Bordighera.

American Office Buildings for London.

Under the heading "The American Invasion of London," *The Times* of the 20th inst. gives publicity to a building project which is being promoted by an influential English-American Syndicate. The proposal is to erect on the north side of the Strand, at the bifurcation of the new street from Holborn, an office building on American lines which is to cost £2,000,000, and "to be the largest and handsomest structure of the kind in the world." The site has a frontage to the Strand of 750 feet, with even longer frontages to the adjoining new streets which are being opened. It has an area of 125,000 square feet. The architect's drawings show that the entire building will be seven stories in height, but a portion will have three more stories, the whole of steel construction, with sandstone exterior. It will be equipped with every modern convenience. One of its special features will be a spacious rotunda, under a lofty dome, in the centre of the building, intended to form a general rendezvous. The basement will consist of extensive safety deposit vaults, a large restaurant, engines, boilers, and machinery for furnishing heat and electric light, and the power necessary for running thirty lifts. The ground floor will contain special accommodation for banks and insurance companies requiring large rooms, and for shops. The upper floors will be given up to offices. It is estimated that the actual floor space available for letting purposes will amount to 900,000 square feet, and that there will be more than six thousand rooms in the building. The rents payable by the tenants will include charges for heating and electric lighting, cleaning, and telephone service. Every office, or suite of offices, will contain a telephone, and the landlords will contract with the telephone company for a sufficient number of trunk lines to meet all requirements. The lift service will be in operation all night, and the building will be accessible day and night throughout the year. It is estimated that the annual maintenance charges will be upwards of £35,000, and that the construction will probably take two-and-a-half years. The Syndicate has already submitted to the London County Council a written application for a 999 years' lease of the site.

THE NEW MODEL BY-LAWS FOR RURAL DISTRICTS.

By Lacy W. Ridge [*F.*].

It has pleased the Local Government Board to issue a model of By-laws for Rural Districts, and so enable the authorities having jurisdiction in such places to relieve themselves from enforcing and their constituents from carrying out the unnecessarily stringent regulations which some of these authorities, under the sanction of the Board, had adopted.

The model itself is preceded in the published copy by an introductory memorandum which recognises that the responsibility for making by-laws rests with Rural District Councils themselves. It intimates that the model is confined to matters affecting health, but must not be regarded as excluding the adoption by Rural Councils of further provisions, which may be applied in portions only of their districts. For these the Rural Councils are referred to the model series prepared for use in urban districts. Some general description of the proposed by-laws follow, and the procedure to be observed in making by-laws is recorded.

The regulations respecting construction are certainly not onerous, and are as follows :

No. 3 requires a cement concrete layer, respecting which it is to be hoped that a great majority of rural councils will have the forethought to omit the words " wherever the dampness of the site or the nature of the soil renders such a precaution necessary."

No. 4 provides for damp courses, and the construction of walls with their external face in contact with the ground ; and No. 5 deals with the keeping dry of parapets.

When we come to " space about buildings " (6 to 7), a less liberal spirit prevails, and the imagination of the draughtsman does not seem to have risen beyond the idea of a row of cottages each with fore-court and back garden. The adoption in the country of the very frequent and convenient plan of putting the end of a house towards the road would render the Council powerless to interfere respecting the width of the road. Rural Councils would do wisely to reserve to themselves discretionary powers to deal with irregular sites. If they are unfit to exercise such a discretion local government by elected bodies is a failure.

The frivolous regulations as to windows (8 to 12) follow. They have been sufficiently discussed. Possibly in towns such may be of use. In the open country they are needless, and so mischievous.

Long as they appear to be, it is not probable that architects will object to the by-laws as to drainage and water-closets (13 to 21). Architects owe much to the detailed supervision of drainage works often given in the country by the sanitary authorities. We are left by By-laws 39 to 42 with the impervious cesspool, and the difficulty of the ultimate disposal of the sewage matter remains unsolved.

Earth-closets and privies (25 to 32) are treated as practically the same thing. In fact, the characteristic of the privy, its pit, is abolished. Some difficulty will certainly be found in districts where water is scarce—and that is nearly everywhere in the South of England where people specially desire to live for the sake of the scenery—in carrying out the regulation that every earth closet should be at least 10 feet from a dwelling-house. It may be conceded that they should be cut off by a ventilated lobby, and their walls and floors rendered impervious ; but it ought not to be assumed that in well-conducted houses they will be treated as unkempt privies. The point may properly exercise the ingenuity of authorities with *rural* experience.

It is to be regretted that the Local Government Board have dropped the party wall from their rural model. It is true that for the most part the absence of such a wall may not affect the health of the inmates of houses ; but when the supreme moment comes, and the adjoining premises are on fire, it is not only a question of health but of life that such a protection should exist. Those who are in the habit of noticing the effect of fires must feel that the erection of party walls has done more than all other regulations put together to stop the spread of fire and the destruction of property thereby.

The Board's advice to the Rural Councils to fall back on the Urban Model is not available in this case, as the external and party walls are therein inextricably mixed together, and there are many regulations as to heights and thickness which need not be enacted. This mixing has caused some hardship in small premises by requiring a thickening, desirable in external walls, to be made also in the party walls, where it is not needed.

In my opinion the Institute might, while thanking the authorities of the Local Government Board for the considerable relief likely to be afforded in rural districts, still suggest this subject of party walls for their further consideration.

MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1901-1902, held Monday, 18th November 1901, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 25 Fellows (including 11 members of the Council), 26 Associates (including 2 members of the Council), 3 Hon. Associates, and visitors, the Minutes of the Meeting held 4th November 1901 [*ante*, p. 19] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Frederick William Porter (elected *Associate* 1850, *Fellow* 1855), and it was resolved that a message expressive of the Institute's sympathy and condolence be forwarded to the family of the deceased member.

The following members attending for the first time since their election were formally admitted and signed the respective registers :—Walter Aston (Manchester), *Fellow* ; and James Andrew Minty and Percy Erskine Nobbs (Edinburgh), *Associates*.

A Paper by Mr. Anning Bell, entitled NOTES ON THE PRACTICE OF PICTORIAL MOSAIC, having been read by the author and discussed, a vote of thanks was passed to Mr. Bell by acclamation.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

LEGAL.

Ancient Lights.

WARREN *v.* BROWN.

This was an appeal from a decision of Mr. Justice Wright, heard in the Court of Appeal, before the Lord Chief Justice and Lords Justices Williams and Romer, on October 28, 29, and November 13.

The action was for damages and an injunction in respect of the obstruction of the access of light to windows more than twenty years old. The plaintiffs had for some years, but much less than twenty, carried on upon the premises a business by means of machinery which required a very exceptional quantity and quality of light. Before that a different industry had been carried on there, which required good, but not special or extraordinary light.

The defendant had by the erection of a building diminished the light which the plaintiffs had enjoyed from the windows for twenty years past, and the light was now materially insufficient during some part of the day for the special requirements of the plaintiffs' business.

Mr. Justice Wright held that the plaintiffs having an abundance of light for all ordinary purposes of inhabitancy or business, they were not entitled to relief on the ground that the extraordinary use of their premises had been interfered with.

The plaintiffs appealed.

Mr. Hugo Young, K.C., and Mr. W. H. Stevenson for the appellants.

Mr. C. M. Warmington, K.C., and Mr. A. Neilson for the defendant.

Their Lordships allowed the appeal, being of opinion that the plaintiffs were entitled to the whole amount of light, and as there had been a substantial interference with their light they were entitled to damages.

REVIEWS.

OLD DUTCH TOWNS AND VILLAGES.

Old Dutch Towns and Villages of the Zuider Zee. By W. J. Tuyn. Illustrations by W. O. J. Nieuwenkamp and J. G. Veldheer. 4o. Lond. 1901. [*T. Fisher Unwin, London.*]

We have an interesting new version of an old story in the thirty plates by two Dutch artists, Messrs. Nieuwenkamp and Veldheer. Most of us know the fascination of the sea-girt lowland, stolen from the sea, the waves ever beating on the dykes and dunes and often making ravages and reprisals. Our sympathies are with the hardy race that has set bounds to the sea and has changed the salt marshes into fertile meadows and useful waterways; driving piles into the sand or mud on which to raise homes, big churches, and the numberless tall windmills that grind the corn, saw the wood, and pump out the superfluity of water.

In a collection of old Dutch masters we find careful and accurate painting of houses, canals, and drawbridges exactly as we see them now; the walls built neatly of tiny bricks, and dotted sparsely with little stones (for stone was very scarce); the quays lined with trees, and the canals full of barges almost on the lines of those now afloat. The streets are still paved with similar small bricks, and we find this paving continued into the country villages. Here are the miniature wooden houses, with brilliant red roofs and gay in bright paint, looking for all the world as if fresh from the toy shop; beside them are the trimmed orchard trees with stems whitewashed or coloured of a sky blue. The ample farmsteads are the counterparts of those that Rembrandt etched.

The work before us treats of the *towns*, and those especially on the Zuider Zee—that modern gulf which is old enough for mediæval cities to have grown up on its fringe, and already to have lapsed into moss-grown decay and solitude. Some towns, however, are yet thriving marts for the cargoes of golden or pink cheeses that are floated to them, with other farm produce; they are markets also for the harvest of the fishing fleet. There is interesting matter, the result of careful research, in Mr. Tuyn's description of these towns and their history; while the Introduction by "W. D." is in a very happy vein, full of sympathy with his subject—as pleasant as Mr. G. H. Boughton's "Rambles in Holland," which, though lightly treated, we always feel recalls the charm of the amphibious Dutch people and their watery land.

In the pictures of these (to many of us) familiar scenes the artists have imparted their own individuality: there is quaintness in the composition and in the choice of subject, but with it, almost an intentional disregard of drawing and a uniform heaviness of hand; while the "reproduced" plates show a mechanical method of filling in the tiles of roofs and the bricks of walls. With such architectural subjects we look for correct delineation of a lantern *flèche* or the mouldings of a gateway.

With the woodcuts there is vigour and force, some being powerful studies of light and shade (principally shade), reminding us of the early masters of wood-engraving, or of the straightforward method of the Dutch painters on delft. They suffer by a conventional way of introducing clouds, violent in form, the lines in them as strong as the branches of the trees or the masts of the barges. The paper, the printing, and the binding are as admirable as one would expect even from Mr. Fisher Unwin.

ERNEST GEORGE.

ARCHITECTURAL COMPOSITION.

Principles of Architectural Composition. By John Beverley Robinson. With an introduction by Russell Sturgis. [*New York: Architectural Record Co.*]

This is a suggestive little book in many ways. There is a freshness in what comes to us across the Atlantic, notwithstanding the difficulty for us of appropriating the method adopted for conveying ideas, even though clothed in the English language.

The "principles" resolve themselves into what may be described as a dogmatic statement on the part of the writers of their own feelings when called in to criticise the taste involved in producing architectural works in the present day. The introduction truly says, "In modern buildings—undertaken in haste, decided on in a scrambling meeting between ignorant committee-men and headlong architects, put through in one-fifth of the time which their design and construction require—in modern buildings the artistic problems connected with grouping, massing, subdivision, relation, and proportion have but little weight. . . . The majority of men need much help in these matters; and such help is best given by the reiteration of those general principles which govern architectural design." This, then, is the object with which this work has been undertaken, and it is well worth while studying it, whatever conclusion may be come to by the reader as to the tendency of the criticisms.

It is not quite easy to discern the principles on which these judgments have been founded, for, as has been said, "sic volo, sic jubeo," for all we are told, has guided the decisions given. Not that we may not gain much benefit from what has been laid down, for the criticisms are full of careful thought, and such a method of imparting knowledge has before now been used with great success, notably by the late James Fergusson, whose writings and criticisms have had so powerful an influence during the last quarter of a century on matters architectural.

On the whole, it is quite worth while for any student of architecture, whether within the profession or out of it, to weigh carefully the suggestions offered us from America in this book, even if we should come to the same conclusion let drop by the writer, that after all "judgment is required [in design], and that delicacy of apprehension which we call taste, to a great extent obtainable by cultivation, that is, by looking at things with the view of judging whether their appearance is pleasing or not; but, in its extreme degree, inborn, like extreme degrees of other faculties, musical and poetical apprehensions, and even mechanical and arithmetical."

Lenox Prendergast.

SCOTTISH ARCHITECTURAL DETAILS.

Scottish Architectural Details. By John W. Small, F.S.A.Scot. Folio, 1901. Æneas Mackay, Stirling; Gibbings & Co., Lim., London.

In Messrs. McGibbon & Ross's works and in "Billings' Antiquities" the architecture of Scotland has been well reviewed from the historic and picturesque sides. But in these works little attention has been paid to the details of ornament or construction.

Indeed, the student who has had the opportunity of comparing the plates in the "Antiquities" with the actual monuments must recognise that, though indeed the draughtsman has put crocket where crocket was, and cable-mold for cable-mold, his crockets and cables are rather emasculated English than Scottish. One rises, too, from the "Antiquities" with a feeling that spiky turrets and stringcourses that will not run straight are the only characteristics of Northern work.

Mr. Small's book will be found of great value in supplementing the existing works on these points of detail. It consists almost entirely of large scale sketches and measured drawings, and the sections of the mouldings are given in every case to a larger scale. One must regret that these were not even more extensively figured, for the statement "one quarter full size" is not convincing on a reduced drawing.

As we should expect from Mr. Small, the examples have been well chosen and vigorously drawn: they range from dormers and chimney-heads to candlesticks. Many are in themselves very beautiful, and all are typical. Particularly one might refer to the small door from Linlithgow Church and several of the examples of pierced metal work. The door from St. Giles's, Edinburgh, and several of the dormer-heads very strongly show the influence of the French alliance.

The book suffers somewhat from want of arrangement. Woodwork, stonework, and ironwork are mingled on one plate, whilst details from one building are distributed through several. It may, too, appear "scrappy"; but this is unavoidable in a book which aims rather at showing typical details from already published buildings than at presenting any independent survey of the subject.

The references freely given in the explanatory notes to existing works should prove useful.

The paper is good, an index is provided, and the shape most convenient.

Ramsay Traquair.

LAND SURVEYING.

Land Surveying. By Samuel Skrimshire, F.S.I. 8o. Lond. 1901. Price 7s. 6d. net. [Frank P. Wilson, "Estates Gazette" Office. 1901.

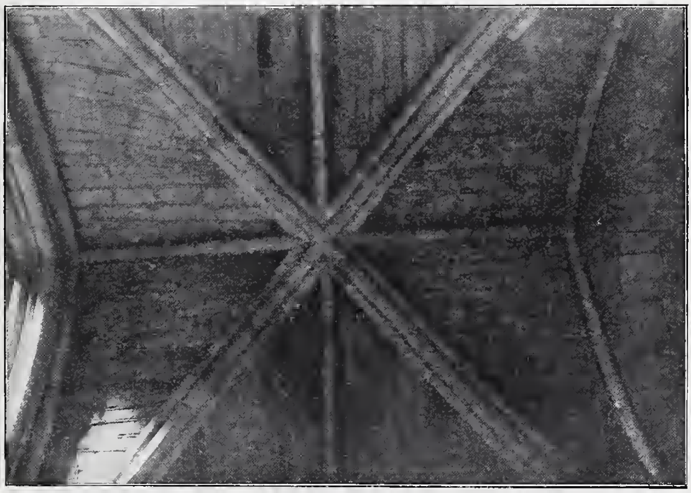
If Mr. Skrimshire's treatise is an exposition of the whole theory and practice of land surveying, this sphere of activity seems to be far less complicated than we had imagined. Apparently, all you have to do is to learn the use of certain simple instruments, and a book of logarithms, walk about with a chain and a "leader" and a "follower," and jot down measurements in a notebook according to rule of thumb. Any intelligent person with a knowledge of elementary mathematics and a sound constitution could be a skilled land surveyor in a week. We suspect, however, that in practice there are dark and devious complexities arising in special cases which no textbook can take into account, and with which only the experience of years can successfully grapple. The treatise under notice can therefore be regarded as only elementary. It takes the beginner eager to survey by the hand, and tells him how to use a T square and a theodolite, how to solve triangles, and how to knock out the kinks in his chain and how to fold it up neatly; then how to make a key-plan, how to proceed to "triangulation" and other mysteries, and, lastly, how to make the simpler surveys. For the student it seems to be an admirable handbook, well arranged, and written from beginning to end in a style of surprising lucidity.

RIPON.

Bell's Cathedral Series—The Cathedral Church of Ripon: A Short History of the Church and a Description of its Fabric. By Cecil Hallett, B.A., Magdalen College, Oxford. With 53 Illustrations. Price 1s. 6*d.* 8o. *Lond.* 1901. [*Messrs. George Bell & Sons, York Street, Covent Garden, W.C.*]

Mr. Hallett's contribution to Messrs. Bell's Cathedral Series is of great merit. Not content with exploring all information that was in print, and with cross-questioning deans, archdeacons, and vergers, he has examined the structure himself with a minuteness and thoroughness that renders his work one of permanent value. But the better is always the enemy of the good; and in this case the book would have been bettered considerably if it had been submitted to the revision of a professional architect, so that the statements in it might be corrected, or, at any rate, expressed in definite architectural phraseology. It is really not easy to see what the author means when he says (p. 88) that under the soffit of an arch is a roll "between two mouldings that are hook-shaped in section." And it appears to be contrary to the usual connotation of the term to say that the simple pointed bowtell has a "keel-moulding," as Mr. Hallett does on p. 91, and whenever a pointed bowtell occurs. The distinction seems to be that the latter has a convex, the former a concave surface. And, as a rule, the keel-moulding is the later in date; though it occurs in the transitional piers of the central tower of Boxgrove. But, in the main, the author has done his work with very great care; and the book is no mere compilation, but shows everywhere signs of original work. With the exception of Mr. Clutton-Brock's excellent volume on York Minster, it appears to me quite the best in the series. The illustrations are unusually numerous and good, with the exception of one of the north side of the interior of the choir, which is an extreme specimen of what the experts, I believe, call technically a "drunken" photograph; all the lines converging upwards.

As originally built, Ripon Minster was one of the most remarkable churches in Great Britain. Like Bolton, its nave was without aisles, but Ripon nave was 40 feet broad; the broadest in England till York nave was built a century later. With this great nave were united an aisled transept and an aisled choir; a combination not unusual in the South of France and the North of Spain, as in the cathedrals of Toulouse, Bordeaux, and Gerona, and as effective as it is unusual, but quite unknown in these islands. In the eastern chapels of the transept, walled off from the choir-aisle, and raised above the transept, the builders followed the Cistercian traditions of the district. Otherwise, among English church-plans, this of twelfth-century Ripon was a sort of architectural Melchizedek.



Watson, Ripon, Photo.

VAULT OF NORTH TRANSEPT AISLE, TWELFTH CENTURY.

Mr. Hallett, perhaps wisely, does not speculate as to how Ripon Minster came into being in the twelfth century. It is an amazing contrast to St. Frideswide, Oxford, which is utterly Romanesque at heart; yet both were building together, and both for Augustinian Canons. It is quite disconnected from the advanced Gothic of the West of England; it is far more Gothic than New Shoreham or St. Cross, and it was probably well under way before William of Sens commenced his work at Canterbury. So it cannot be affiliated to the work either of South or West. And it seems to have just as little kinship with the heavy Cistercian work of Fountains, Kirkstall, and Furness; which, in spite of pointed arches, is still but Romanesque. It is earlier than Byland, if the monks did not build their church till after they moved thither from Stocking; and its long choir is a great advance on that of Byland. The original intention seems to have been to vault both choir and transepts; the vaults being designed to spring at the level of the clerestory-sill. Up to that point there is in the choir a group of five vaulting-shafts; as at Castle Acre and in the west bays of the nave of Worcester; which would seem to imply that the vault was to have wall-ribs; as, indeed, is the case with the vault of the aisle of the north transept, illustrated by Mr. Hallett. It is somewhat remarkable that in the twelfth-century Gothic vaults, both of Worcester and Ripon, wall-ribs are employed; considering that they are rare in Norman work and in later English Gothic. In the aisle-vault a still more remarkable feature appears, viz. ridge-ribs, which are so slender that, as in Angevin vaulting, their function can be little more than decorative. The "filling in" of this transept-vault is French in construction. French also is the perching of the five vaulting-shafts of each bay of the choir on the abacus. The broadness of the windows, as in Canterbury choir, is more characteristic of French than English work. And the triforium, especially that of the north wall of the transept, is reminiscent of the upper aisle of Noyon, which is probably *c.* 1152. The proportions, too, of the internal elevation of the choir, especially the importance given to the clerestory rather than to the triforium, follow the French standard. So also, perhaps, the total absence of Romanesque ornament—so different either from Canterbury or from Glastonbury—may be due to the influence of the early Gothic of Northern France, though doubtless we must take into account also the unadorned Cistercian work of the neighbouring northern abbeys. In other respects the work is English in character. But whether French or English, the influence of the twelfth-century work in Ripon was, I think, very great on North of England Gothic. Fountains choir and transept, indeed, York and Durham transepts, and Beverley, owe much to the Gothic of the South-East and of Lincoln. But if the internal elevations of the choirs of Benedictine Whitby and Cistercian Rievaulx, both probably commenced *c.* 1200, be examined, it will be seen that they owe much to the work of the Augustinian Canons at Ripon, and possibly also to that of the Secular Canons of York, both under the influence of a French archbishop, Roger, of Pont l'Evêque, in Normandy.

FRANCIS BOND.

Ronald P. Jones, Photo.

RIPON CATHEDRAL FROM THE FOOTBRIDGE OVER THE SKELL.

THE PAST, PRESENT, AND FUTURE OF BRITISH ARCHITECTURE.

By Frank Caws [*F.*],

PRESIDENT OF THE NORTHERN ARCHITECTURAL ASSOCIATION.

Presidential Address delivered to the Northern Architectural Association, Newcastle-on-Tyne, at the Opening Meeting of the Winter Session, 13*th November* 1901.

FELLOW ARCHITECTS,—The honour which you have conferred on me in calling me to this Chair entails the duty of giving the opening address, not only of this session but of this century; and it therefore seems fitting to allude at the outset to—

THE FUTURE IN RELATION TO THE PAST AND PRESENT.

While our country has just entered on a new *régime*, that of King Edward VII., which cannot possibly in the nature of things be so prolonged as that of his glorious mother, our profession also has entered on another era of activity, and, let us hope, of real progress towards that higher excellence for which the noblest minded never cease to strive. The nineteenth century will be distinguished by the future architectural historian as the most fickle century of all, in regard to the number, variety, and incompatibility of the styles and fashions of buildings which it has so restlessly and inconstantly first embraced and then spurned. During this fickle century, the Battle of Styles has been fought to a finish, not of the "final issue," which never can be finished, but to a finish of the two contestants, the old Classic and the resurrected Gothic, which entered both on the fray and neither of which has survived. "As dead as Queen Anne" is an expression which has passed into a common byword. Yet it is remarkable that if there is any distinguishable survivor of the architectural fights of the great Victorian age, it is the Queen Anne type, which still possesses much vitality, and seems to enjoy a fair prospect of extending its influence far into the twentieth century.

There is little use in arguing for or against a style. Taste is one thing, and logic is another. It is as idle to investigate the reasons why architects and their clients prefer certain styles of buildings, as why ladies choose certain fashions of bonnets. Such preferences, which are determined by fancy, or perhaps by love—though seldom, if ever, by logic—have possibly some little rhyme but less of reason in them. Architects choose their styles of architecture as they choose their sweethearts and wives. No architect worth his salt will allow another to dictate that choice which his own heart must alone make, and in which to himself he must be true.

But though it is best for every architect to work in the style which is most congenial to him, and in which he is most at home, yet, consciously or not, we are all deeply influenced by one another; for wherever men associate closely their tastes and ideas become so assimilated that a strong family likeness pervades their works. Thus those associations of men which we distinguish as nations, viz., the Egyptian, Assyrian, Greek, Roman, Hindoo, Moorish, Gothic, Chinese, Russian, and others, have developed distinctive types of architecture, each possessing strong individuality, as though the product of one mind.

The mind of the modern architect is as the basin of the sea, into which all the rivers of the past ages of architectural styles run; and it will not be strange, but quite natural, if this commingled ocean of ideas should present ultimately a cosmopolitan expansiveness of majestic thought, as the outcome of all its agitation.

The intercommunication of nation with nation has, during the nineteenth century, by international exhibitions and in a thousand other ways, been developed to an extent undreamt of in old-world days, and has very powerfully tended to an exchange, assimilation and commingling of racial ideas and fashions, not only in architectural design, but also in manners, dress, and literature; so that while we find, for instance, the people of Japan dressing and behaving like Europeans, we also find Aubrey Beardsley and other London artists of his singular school drawing and painting after the Japanese manner. We are all more or less impressed by the marvellous art power of Japan. Brought by press, steam-locomotion, telegraphy, and the numerous other instruments of modern science (and especially by photography) face to face with the works and ways of architects of other climes and times, it is not surprising that British architects during the Victorian age have found it impossible to preserve their insularity of thought and feeling.

The twentieth century must advance to perhaps one-half its length ere the ordinary observer of British architecture will become impressed by some one resultant style, as the eventual outcome of that multitudinous clashing of foreign ideas which crowded so thickly on one another throughout the nineteenth century as to create the present chaos, out of which the twentieth century order of architecture can be evolved only by slow degrees. Nor can we wonder if, to escape from the bewildering distractions of so many charming styles wooing his favour, many a British architect is found reverting fondly to the sweetly familiar homeliness and refined quaintness of the Queen Anne type, just as a reader might turn for relief from the writings of Dante, and other sublime bards, to the simpler and more soothing poems of Longfellow.

The question is sometimes asked, "Will the Gothic again revive?" Men of the twentieth century cannot bring themselves to feel continuously as born mediævalists. If we must go back, to most of us a romance of the time of Elizabeth, or Charles I. and Cromwell, is more attractive than an equally well-written one of the time of the Plantagenets. There is no denying that our British literature and art, as well as architecture, are, in their sentiment, quite decidedly post-mediæval. Chaucer, standing on the border line of the Middle Ages, is seldom read to-day; and even Spenser, further though he is from that border line, finds few readers. Yet Shakespeare, who wrote near the same border line, is more widely read than ever. It is noteworthy that he was so passionately modern in sentiment that though he wrote of "cloud-capp'd towers and gorgeous palaces," he seldom or never alluded in his works to the majestic fanes of the mediæval builders, which in his time were recently completed, and were, as Tennyson would say, "white from the mason's hand." I have often thought this a negative indication of the state of mind of Shakespeare's English public, who had, even in his day seemingly, already grown weary of mediæval sentiment. This tiredness became more pronounced as time rolled on, till in the days of the great Sir Christopher, by common consent, the contemptuous term "Gothic" was applied indiscriminately to all mediæval art and architecture.

The Pusey-Pugin reaction of thought and taste occurred at length when some of the oldest among us were boys, who came more or less under the spell of that great but short-lived movement which, in the small span of our little lives, has already proved to have been a mere flash in the pan.

Those of us who learned in our youth to love mediæval architecture, and mediæval sentiment generally, can never bring ourselves not to love it; for "*the thoughts of youth are long, long thoughts.*" But we must mournfully admit it is an overblown rose, whose lovely odours linger still about cathedral cloisters and old-world haunts, but whose roots find no proper food in the soil of twentieth century ideals.

During the great modern struggle of types, the spirit of Art has been torn and distracted this way and that between rival sentiments, widely differing, yet each having charms of its own hard to resist.

We have felt and known the strife which has claimed on both sides its champions and devotees, and has called architects to group themselves in camps; and we know that this strife has left the spirit of Art to wander restlessly in "dry places," seeking a home in some new form, and thus far finding none other than those Dutch renaissant lumberings whereby the fair ground of England is being day by day increasingly cumbered.

So pronounced are we Britishers in our cosmopolitan proclivities, that, much to the astonishment of continental nations, we accept with equal equanimity the triumphs of Dutch art and the successes of Dutch arms. This equanimity, which some regard as proof of our weakness, may rather be due to our innate consciousness of power and capacity in both Art and Arms, a power and capacity which, let us hope, in the twentieth century may eclipse our great past by our greater and still more heroic future.

Regarding the future of British architecture we need not ask, "What will the end be?" For there will be and can be no end to the mutable fashions affected by restless humanity. When an architect has lived through forty years of such wilderness wanderings from change to confusion of change, the keen edge of his fondness for any mere fashion wears off, and he feels inclined to ask, "What does it matter whether Gothic or Classic triumphs, or whether French Renaissance, or Flemish, rules the English architectural roost?" Experience and satiety render him increasingly indifferent to mere freaks and whimsies of fluctuating fashions, while he becomes ever more and more keenly appreciative of fundamental principles, which he rejoices to discover and follow whenever and wherever he can. We all become, with advancing knowledge, more and more alive to the fact that while fashions change principles are unchanging, while fashions pass principles remain: so that in cultivating deeper acquaintance with principles we are, more or less consciously, making friends of the Eternal; and if from sheer weariness of change we fail to keep pace with fashions that bloom in a day to die in a night, we may ever keep in close touch with those great verities wherein Beauty and Truth are vitally rooted.

Signs are not wanting that the rising generation of architects, to whom the twentieth century belongs, are coming to regard an intimate acquaintance with structural principles as a *sine qua non* of professional proficiency; for not merely *Statics*, but also *Dynamics*, are now included in the *curriculum* of the Preliminary Examination which even novitiates must pass ere they can take rank merely as Students of the Royal Institute of British Architects.

This remark naturally introduces the one subject which at the beginning of this New Age holds the field more than any other—and is likely long to hold the field—viz.:

EDUCATION.

Not, as heretofore, education for education's sake, but as a means to an end—*i.e.* education as qualifying for practical work. The education which in the centuries past was given to polish a man into a "gentleman" has, in this twentieth century, entered on a new career, with the nobler aim of teaching gentlemen to become workmen.

In this new order of education, architects of all men can least afford to be left behind; and especially the architects of the North-East of

England, where so honourably heavy a share of the work of our nation is done. The very word "architect" expresses the proper relation of our profession to the technical education movement, which bids fair to become *the greatest reform movement of our time.*

It would be difficult to point to any situation in which an intelligent youth would be so favourably placed for acquiring a sound technical education as in a good architect's office. But, alas! we all know, from observation and experience, that an intimate knowledge of structural science, even when combined with artistic qualifications of the highest order, are not by themselves enough to secure success in our profession, to attain which, in these days of push and enterprise, commercial talent and capacity are also much needed.

There was education in the Middle Ages, too, viz. that of the monasteries; and, as a result, the monks gave us mediæval architecture, which forms at once their monument and tomb. They had their day, and ceased to be. Their day is not ours. In these days we may and must be students, as the monks were, but not after their fashion. We must not permit our studies to withdraw us from social and business life. We cannot, as architects, lead lives of cloistered seclusion, but must be, in the best of senses, men of the world.

The truly successful modern architect must of necessity be an artist, scientist, and commercialist, and—what is not quite expressed by the above literal English translation—*un homme du monde* as well. Indeed, every architect's ultimate character is determined by the degrees and proportions in which all and each of these distinct components of his mind and training combine and preponderate; for as all Nature's colours are resolvable into their three primaries—red, yellow, and blue—so all the varieties of mind, character, and work to be found in the architect result from the manner in which Art (which is sentiment), Science (which is truth), and Commerce (which is fellowship) are mixed in his make.

Thus we have architects who are mere sentimentalists making pretty drawings which they have neither the wit nor the will to carry out without getting able constructors to undertake the design of the practical details for them.

Then, again, we have architects, generally styled "Engineers," who are scientists destitute of the sense of the beautiful, whose structures are much too often painfully clever exhibitions of frightful unmitigated ugliness.

And last—and, in their own and the world's eyes, *best*—are the commercial architects, who, comparatively indifferent to and not seldom grossly ignorant of both art and science, scour the country side for commissions, meanwhile employing artists to design their façades and interiors, and engineers or able constructors to solve their structural problems, while they themselves absorb the great bulk of both *kudos* and cash.

To those of us who are old and grey it is now too late to cherish new ideals for ourselves. We have shaped our course on certain lines, and cannot at this late period of our lives alter what we have fixed. But to those among us to whom emphatically the twentieth century belongs, it is neither too late nor too soon to set before ourselves these three component qualities, *Art*, *Science*, *Commerce*, and make up our minds which of the three we will worship most and follow hardest; or whether we will strive for that highest ideal and most honourable, because most difficult of attainment, in which a deep love of art, familiar knowledge of science, and strict attention to business are combined in the fully developed, every way qualified, up-to-date architect.

The youngest among us, in view of these four alternatives, should act on Goethe's advice,

> "Choose well! your choice is brief, and yet endless."

In case one should say of this fourth ideal, "Impossible!" the name of Michelangelo may be mentioned. Artist (sculptor and painter), engineer (of fortifications), business man (manager for many years of marble quarries), poet (of glorious sonnets), and, in one all-comprising word, Architect, *i.e.* master of arts, master of works, master of affairs. Not a mediævalist was he, but a modern; as modern as Shakespeare, and as permanently great. If such men are impossible to the twentieth century, so much the worse for the century.

There are unfortunately too many signs, even in our own noble profession, that the spirit of this age is not moving Michelangelo-wards. The popular measure of success is not supreme technical skill, is not even genius itself—that gift from the Highest to the highest—but is *gold*.

This debasing influence reveals its presence amongst us by an increasing disposition to bribe clients to employ us, by offering our services at rates of remuneration below the rates fixed by usage, and by which every member of the Northern Architectural Association, and of the Royal Institute of British Architects, to which it is affiliated, is bound in honour and fairness to his professional brethren to firmly adhere. Such unworthy tactics are practised in the dark; and only occasionally, when some accidental circumstance lets in the daylight on their utter meanness, is the presence detected of a species of fungus threatening to choke with its clammy poison those springs of our professional life which in their unimpaired clearness are our commonly acknowledged heritage.

The same architectural Jacobs who, by secretly undercutting their *confrères*, do not confine their commercial talent to that narrow sphere of operation, but extend it to the acceptance of those secret commissions which the late Lord Chief Justice determined to make an end of, commissions obtained by what amounts to a conspiracy of tradesman and architect to rob the client without his ever knowing or suspecting. The client, perhaps, flatters himself that he has done a smart thing in employing an architect who is not above working for three per cent., little dreaming that by secret commissions and otherwise he is really paying seven, or perhaps ten, per cent.

To what extent these nefarious practices obtain amongst architects it is not easy for the clean-handed to discover, even if wishful to probe foul waters. But it is certain that amongst building contractors of good standing and honourable character, the acceptance by some architects of secret commissions engenders suspicion and lack of respect, which tend to lower the moral status of our profession, and do it harm to an extent unknown and quite incalculable. The occasional offers of secret commissions to architects who decline them reveal the unpleasant fact that all architects do not decline them.

Commercialism has its right place when it leads us to do our work thoroughly and promptly, in an orderly business-like way, zealously serving the legitimate interests of our client while maintaining proper regard for those of contractor and architect. Commercialism has its wrong place when it leads us to undercut our brother architects, or to hide our own shortcomings and mistakes at the expense of a too complaisant contractor, or to accept commissions from tradesmen; for though the latter kind of commercialism may enrich the man whose conscience allows it, at the same time it robs the noble and clean-handed profession of architecture of its good name, and tends to make it poor indeed.

One of the best results of the formation and maintenance of the Royal Institute of British Architects and its kindred provincial associations is the promotion of those individual friendships between fellow-architects which are the best practical guarantee for uniformity and clean-handedness of practice, both as to the dealings of architects with one another, and with clients, contractors, and all others concerned.

Another way in which the power of association has proved peculiarly helpful to the rising generation of North-country architects is in the acquisition of our grand Library, that veritable Golconda of architectural wealth which alone amply justifies the establishment of the Northern Architectural Association. This is a treasure such as even the most lavishly equipped of technical colleges cannot boast; and which, as time rolls on, will become increasingly a source of inspiration and strength, not to ourselves only, but to those who come after us. It is also a monument due to the unostentatious, scholarly, persistent labours and unflagging interest of our highly esteemed Honorary Librarian, who has been its creator. Surely we should at an early date fix on the entablature of the chief bookcase a small silver plate permanently recording our sense of deep indebtedness to our good friend Mr. Charlewood, for devoting so many years of his busy life to the creation and care of this splendid Library.

But while thus collectively, as a society, marking our appreciation of services so invaluable rendered to us so freely, we can individually, by diligently studying the books, instead of letting them lie unused on their shelves, best contribute to the attainment of the prime object of Mr. Charlewood's efforts, by so improving our knowledge, skill, and taste, as to shed, by our after works, a light and lustre upon North-country architecture such as we have not before displayed.

These are days in which originality is much (perhaps too much) sought after in architecture, as in art generally, and also in literature. But originality, as Sir Joshua Reynolds was never tired of reminding Royal Academy students, is the outcome, not of ignorance, but of knowledge of what others have done. Certainly, the architect who neglects the library is (other things being equal) the least likely to develop originality worthy of the name; for, paradoxical though it may seem, originality is undoubtedly brought to birth by education breaking the fallow ground of the intellect. Too many modern attempts at originality in architecture issue in mere oddities and vulgar sensationalism.

Cruel contortions of gable copings and pediments, coupled with rustication carried to absurd excesses, are having a run just now. But the public taste, though strong enough to enjoy almost any architectural novelty, however vulgar, will become soon nauseated of such wretched fare.

Nature's method of originality is worthy of our highest emulation. She knows how to be unfailingly interesting, and perpetually original, *within the limitations of type*. For example, in her reproductions of the human face divine she never makes two alike. Every human face possesses individuality, *i.e.* originality. Yet the number and arrangement of the features are the same in all cases, the greatest differences of individuality being due to the smallest and most subtle variations.

Nature's originalities are produced not by such horrible expedients as putting eyes in foreheads, or by other monstrous transpositions of features, but by the most exquisite touches of ineffable art. The Greek architects followed Nature in this method of originality; and though to Goth and Vandal the Greek temples all seem so much alike as to be well nigh indistinguishable from one another, to the more refined perception of the Greek, as keen to distinguish minutest changes of form and proportion as the ear of the musician to detect infinitesimal gradations of tune, time and emphasis, no two temples were alike.

We need to exercise in architectural taste that same exquisite sense of which the soul alone is conscious, and which words of the finest are too coarse to express, that sense whereby we judge of the beauty of women and the grandeur of men.

The best architecture is that which makes us feel most and say least.

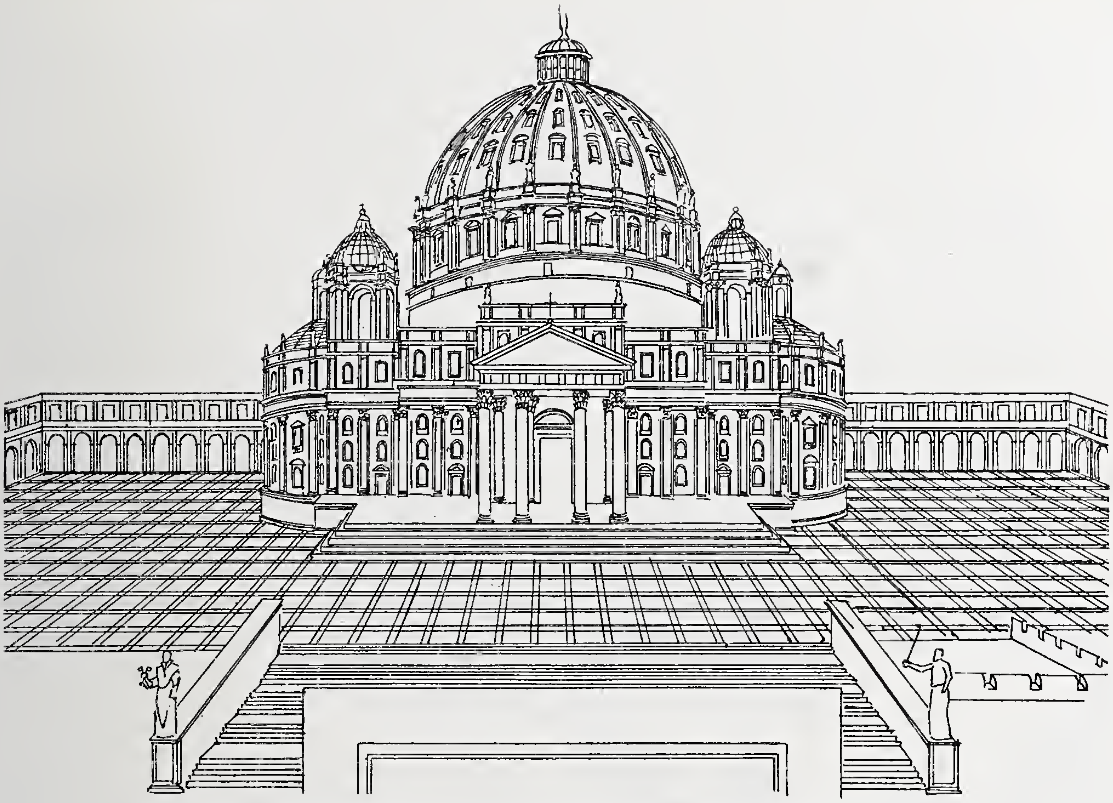


Fig. 1.—Michelangelo's Design for St. Peter's and its Enclosure. After a Painting in the Vatican Library.

ST. PETER'S, ROME.

THE FIFTH ROYAL ACADEMY LECTURE, SESSION 1901.*

By Professor Aitchison, R.A., *Past President*, *Royal Gold Medallist.*

MICHELANGELO BUONARROTI SIMONI was born 6th March 1475, at Caprese, where his father was Podestà, and died at Rome 18th February 1564. This mighty genius has been reckoned as one of those in the roll of the world's greatest men, for, as M. Guillaume, the eminent French sculptor, said, "he was painter, sculptor, architect, and at the same time poet, and appeared as an epitome of the arts of his epoch, and as the father of a new art." His achievements not only made a great sensation in his lifetime, but, I believe, he has been more written about than any of the other great Italian artists, while every weakness of his character has not only been subjected to the minutest criticism by his friends, but to the utmost malignity of his enemies.

I shall only touch on those points in his career that appear to mark the epochs in his progress. He was taught to read and write, and I suppose this included arithmetic; but he showed so strong a taste for drawing that, in spite of the severe beatings he got from his father and his uncles, he was not to be turned from it. On the 1st April 1488 he was apprenticed for three years to the Ghirlandajo brothers (Domenico and Davide Tommaso di Corrado), and was to be paid for these three years twenty-four florins. Shortly after

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* The Third and Fourth Lectures appeared in the last volume of the Journal: No. 11, 6th April, and No. 18, 31st August 1901, respectively.

Michelangelo was apprenticed he corrected a drawing of his master, and he was with the Ghirlandajos when Domenico painted in fresco the Chapel of Santa Maria Novella, and sketched the scaffolding. Michelangelo was taken by Granacci, a pupil of Ghirlandajo's, to the garden of the Medici at San Marco, which was adorned with antique statues. Lorenzo de' Medici wanted to start a school of sculpture, so he asked Ghirlandajo to pick out two of his best pupils, and Domenico selected Michelangelo and Granacci. Lorenzo saw the head of an antique faun that Michelangelo had copied, and made suggestions for its improvement, which was done by knocking out a tooth, and then told Michelangelo to send his father to see him. Lorenzo provided for Michelangelo's father, gave the son a salary, and took him into his house, where he sat at the same table and heard the opinions of the learned men and poets of the day. In 1491 Savonarola's preaching attracted Michelangelo and made a deep impression on him. Lorenzo de' Medici died 14th April 1492. At his death Michelangelo returned to his father's house, and there sculptured a statue of Hercules which is now lost. Piero de' Medici was now the head of the house. In 1494 Piero sent for Michelangelo after a heavy fall of snow to make a gigantic snow statue. About this time Michelangelo studied anatomy and dissected with so much ardour that he made himself ill. One must not give Michelangelo the sole credit for anatomical studies, for Albert Dürer had published a book on anatomy, and I think Leonardo da Vinci had studied it deeply, but Michelangelo, by a thorough investigation of the subject, had obtained such a mastery of anatomy that he took the first place among artists of the nude.

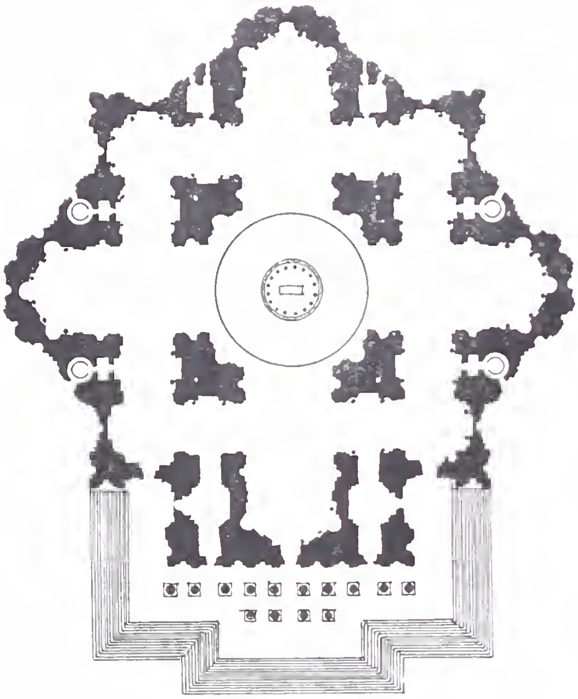

FIG. 2.—MICHELANGELO'S DESIGN FOR ST. PETER'S: PLAN. AFTER A PAINTING IN THE VATICAN LIBRARY.

In 1501 the Board of Works of the Cathedral had a piece of marble nine cubits high which had been brought from Carrara some hundred years before, but out of which the sculptor, Agostino di Duccio, failed to make a statue; but Michelangelo offered to get a statue from it, and got the commission; he executed the statue in eighteen months, and called it David. On the 14th May 1504 this giant (about 13 feet 6 inches high) was moved from its workshop to the top of the steps of the Pal. Vecchio at Florence: it is now in the hall of the Accademia delle Belle Arti. Probably from the discussions on Plato's philosophy at the table of Lorenzo de' Medici Michelangelo imbibed the notion that the proper statue existed in the marble, and had merely to be cut down to.

In 1503 Piero Soderini made up his mind to adorn the hall of the great Council Chamber of the Pal. Vecchio with vast mural frescoes. Leonardo da Vinci was to do one, and he chose for the subject the battle of Anghiari in 1440, when the Visconti's troops were routed by the Florentine mercenaries; the Sala del Papa at Santa Maria Novella was assigned to him as a workshop. Michelangelo chose for his subject an episode in the battle of Pisa when 400 Florentines were surprised while bathing by Sir John Hawkwood, and had the Hospital of the Dyers at St. Onofrio assigned to him for his workshop: this cartoon is considered to be the central point in Michelangelo's life as an artist. About this time he is said to have devoted much time to literary studies and composed some of his sonnets; the cartoon of the battle of Pisa was said to have been finished, and was much studied by the artists of those days, but was ultimately torn up and carried off piecemeal. Leonardo da Vinci made such a mess of his fresco by trying to execute it in the encaustic painting of the ancients that no trace of it remains.

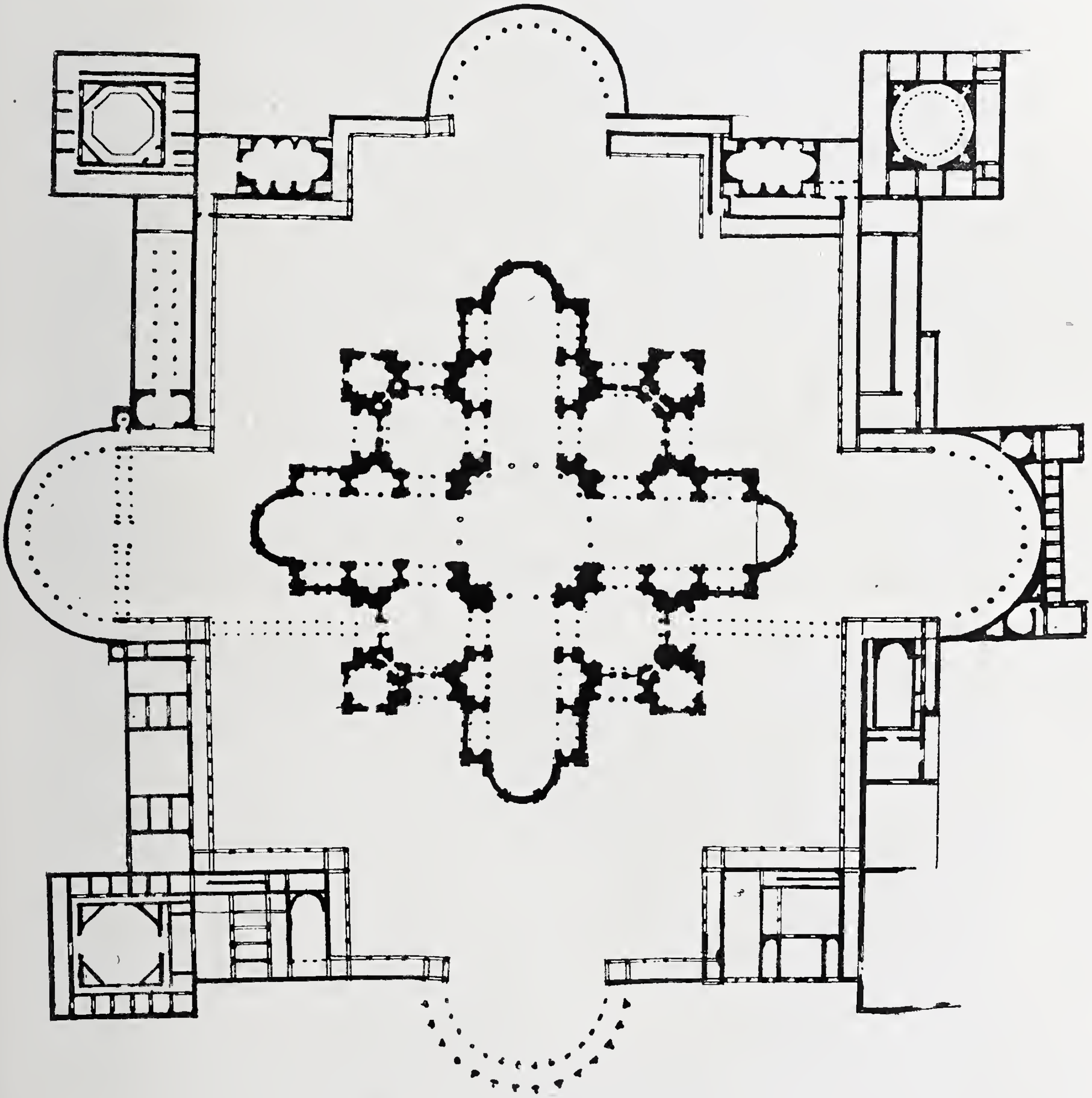

FIG. 3.—PLAN OF BRAMANTE'S FIRST DESIGN FOR ST. PETER'S, WITH ITS ENCLOSURES.

Julius II. was elected Pope in 1503. In 1505 Julius II. set his heart on having a gigantic tomb designed by Michelangelo, and this was the curse of Michelangelo's life, for he was paid two thousand ducats on account, and sent to Carrara to choose blocks of marble for the tomb and to rough out some of the blocks that were meant for statues. To do this involved making roads and all sorts of mechanical devices for getting the blocks of marble down to the port and shipping them, and it appears that he was expected to do this work for nothing. The idea of putting the tomb in St. Peter's was finally given up, and what was finished of it was eventually put up in the church of San Pietro in Vincoli at Rome, where the Moses is now placed. J. A. Symonds gives a sketch of the original design of the tomb, put together from the scattered sketches by the late Dr. Middleton.

On the 18th April 1506 Julius II. laid the first stone of Bramante's St. Peter's. In 1506 Giuliano da San Gallo and Michelangelo found the Laocoon in the ruins of the Baths of Titus.

The Pope had given up the idea of having his tomb at St. Peter's, and when Michelangelo called to get some money he was told by a servant that the Pope could not see him. He immediately sold off all his goods and left Rome, writing to the Pope to that effect. The Pope's messengers overtook him at Poggibonsi, but he refused to return, and went to Florence. Seven months afterwards, however, he was persuaded to go to the Pope at Bologna, because the Pope threatened to make war on Florence if Michelangelo was not returned to him. Michelangelo met the Pope at Bologna, was forgiven, modelled him, and cast his statue in bronze; after Julius II.'s death his heirs were constantly threatening lawsuits and taunting Michelangelo with dishonesty about the late Pope's tomb, and this trouble hung over him like a pall and embittered his life, for he considered that his time for eight months and expenses were badly paid for by the sum he received, not to speak of his loss of reputation as an artist by producing nothing for so long a time.

Pope Julius II. got him to design and paint the decorations on the vault of the Sistine Chapel, although Michelangelo said, "I am not a painter." On the 20th May 1508 he had 500 ducats on account, and when the time of beginning the work arrived he had his celebrated dispute with Bramante about the scaffold, and designed his own. Some part of the vault was uncovered on 1st November 1509; what was done of the decoration charmed and astonished the people, and had a wonderful effect on the artists of those days: even Raffael immediately altered his style. Michelangelo had only five assistants, his old friend and fellow-pupil Granacci being one of them, but he seems to have quarrelled with them all. The area covered was ten thousand square feet, and there were 343 figures, some 12 feet high, and the Prophets and Sibyls nearly 18 feet. It took about four and a half years to complete, as it is supposed to have been finished in October 1512. He got 3,000 ducats for it, whatever that may represent. The incomparable dignity, beauty, and originality of these figures are unique, but as architects we must regret that Michelangelo dwarfed the chapel by making his figures so gigantic, and I think the movement in the caryatids that carry the corbels and the violent action in the figures adorning the arc's doubleaux are unsuitable to the severity of architectural forms, and also gave rise to the extravagant posings of the figures of Bernino and his followers. The Last Judgment, on one of the wall panels, is a work of later years.

Although it is only important to you to know what Michelangelo did as an architect, it would be ridiculous not to speak of the great works he produced in the other fine arts of sculpture, painting, and poetry, because without knowing of these you can form no proper conception of his mighty genius, which may be considered unrivalled.

We know hardly anything of his study of architecture, for we can scarcely call his sketching the scaffolding at Sta. Maria Novella studying architecture; but it is hardly likely, when all the artists, more or less, studied and practised architecture, that he would not also try his hand at it.

His sketch, made, it is believed, in 1513, for Julius II.'s tomb, shows no great mastery of architectural design, nor does his first sketch for the tombs of the Medici in the Sacristy of

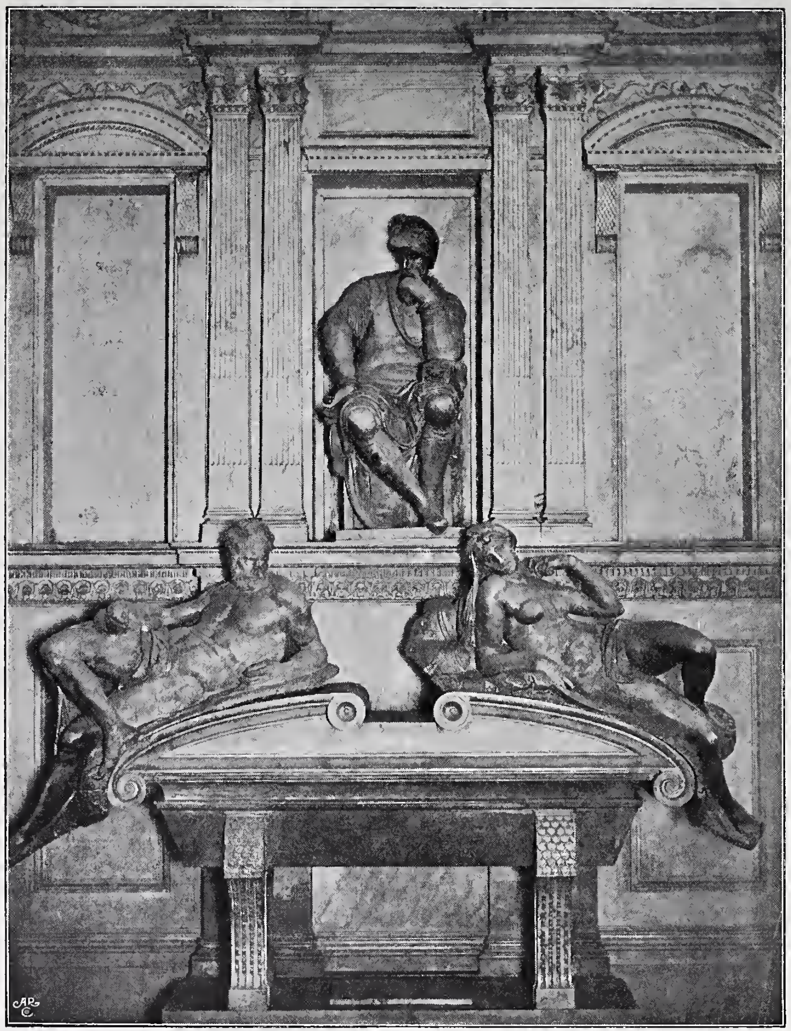

FIG. 4.—TOMB OF LORENZO DE' MEDICI, SACRISTY, S. LORENZO, FLORENCE.
MICHELANGELO, ARCHITECT.

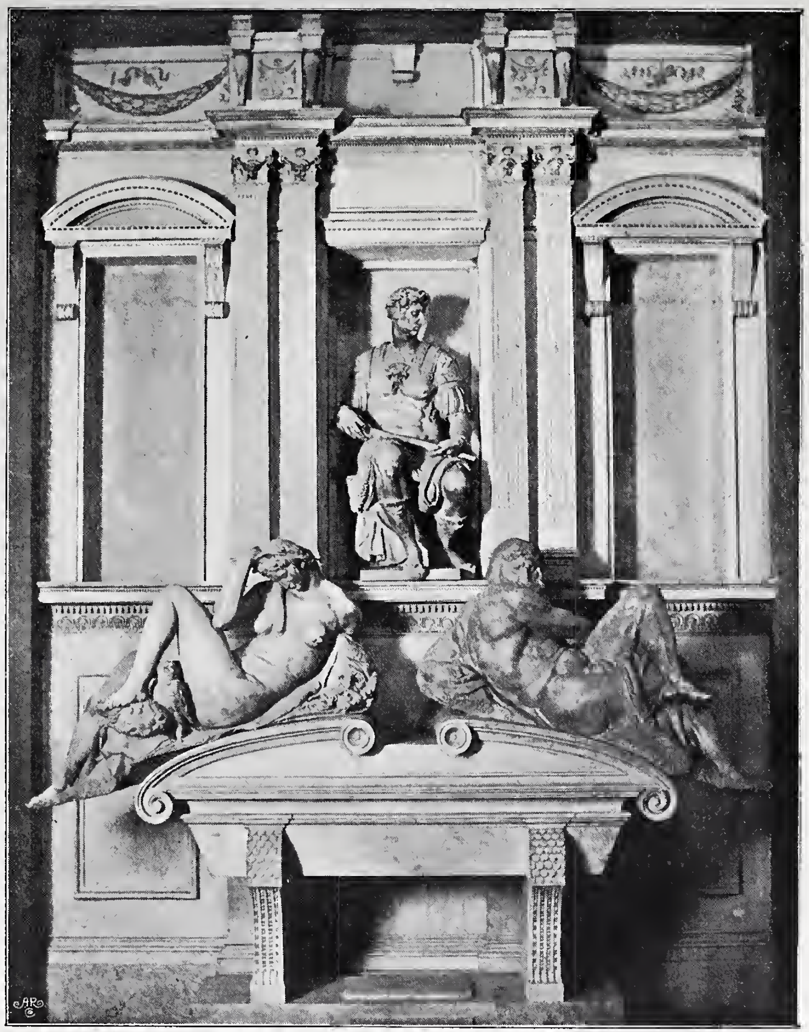

FIG. 5.—MONUMENT TO GIULIANO DE' MEDICI, SACRISTY, S. LORENZO, FLORENCE.
MICHELANGELO, ARCHITECT.

San Lorenzo at Florence, supposed to have been made about 1520, when Giulio de' Medici was cardinal. Poggio Bracciolini (born 1381, died 1459) discovered the *Codex* of Vitruvius at St. Gall in 1414, and it was printed in Rome between 1484 and 1492. The Humanists impressed the paramount importance of this book on architects until it began to dominate Italian imagination. We hear of Michelangelo borrowing a translation of Vitruvius, and asking about one being made for him (1532), and trusting entirely to it, as Alfonso of Arragon had done before at Naples, and we guess that it was about this time that the vestibule of the Laurentian Library was built.

It is almost impossible to fix exact dates to any of Michelangelo's work, but after the elevation of Cardinal Giovanni de' Medici to the Papacy under the title of Leo X., 11th March 1513, Leo determined to employ Michelangelo to do his work, in spite of any previous engagements: the Medici had some claim on him, as he was brought up in their house and received a salary. When Leo X. visited Florence after his election as Pope he had a competition for finishing the front of San Lorenzo, and the new Sacristy in which the former Medici were laid. Michelangelo gained the competition, and had a model made by Baccio d'Agnolo in 1517. He says: "I feel it in me to make the façade of San Lorenzo such that it shall be the mirror of architecture and sculpture to all Italy." He made a contract for the figures in the Sacristy on the 19th January 1518. He was again sent to Carrara to pick out the blocks of marble and make roads for getting them shipped, and afterwards to Pietra Santa. It seems that the tombs of the Medici were begun about March 1520, and that the commission for these tombs came from Cardinal Giulio, and not from Leo X. Michelangelo altered Brunelleschi's sacristy, and made a more ambitious cupola.

In 1521 Michelangelo was making models for the tombs in the Sacristy, and got the commission. Leo X. died 1st December 1521, and Adrian only reigned one year and eight months, and was succeeded by Giulio de' Medici, under the title of Clement VII., on 9th November 1523. Michelangelo wrote to Clement VII. and said, "Architecture is not my profession." The Sacristy of San Lorenzo appears to have been walled and roofed in before the end of April 1524. The whole of the architecture and sculpture must have been finished at Pope Clement VII.'s death, the 23rd September 1534, or by the end of that year, for Michelangelo then left Florence, and never returned. This sacristy had a curious effect on me the first time I saw it, from its mixture of the dark stone of Florence with the white marble of Carrara, and from its architectural solecisms; but on subsequent visits I cleared my mind of preconceived notions, and remained in it for a sufficient time to be gradually overcome by its sublimity and perfection, and I know of no other modern interior of which this can be said. The interior of the Madeleine at Paris is very impressive, but nothing modern has struck me as being of such perfectly harmonious proportions as the Sacristy of San Lorenzo. One of the strings is ornamented with the forms of antique masks, and no two are alike.

Cosimo de' Medici had collected the finest manuscripts, rare books, and antiques his agents could discover and purchase, and this collection was greatly enlarged by Lorenzo the Magnificent after Constantinople was taken by Mahomed II. in 1453. When Lorenzo's son Giovanni was made Pope Leo X. he had this collection sent to his private villa at Rome.

Clement VII., on his election to the Papacy in 1523, had the Laurentian Library sent back to Florence, and I believe Michelangelo built it and its vestibule, but left Florence before the structure was completed. When Michelangelo was very old, and was asked for drawings to complete it, he said he had forgotten all about it; but he sent a sketch from which the staircase was completed. The architecture is simply ridiculous, and the staircase not much better, but both are marked by Michelangelo's characteristic power and originality. He is believed to have designed the three palaces of the Capitol—*i.e.* the

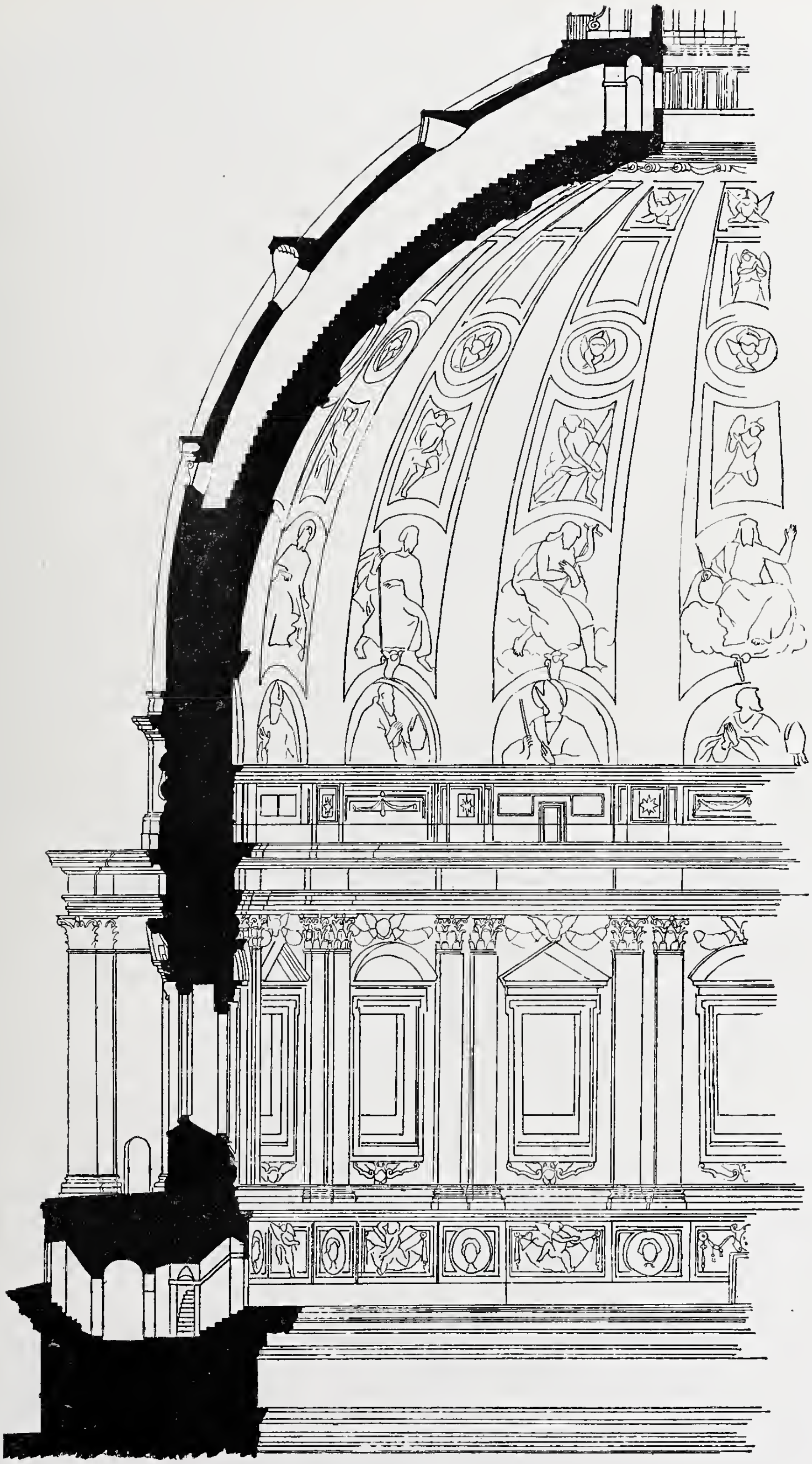

FIG. 6.—THE PRESENT ST. PETER'S. SECTION THROUGH DOME.

Museum, the Pal. dei Conservatori, and the Pal. del Senatore—but his sketches are supposed to have been carried out by Vignola and Giacomo della Porta. These palaces were praised by the late Charles Garnier. In addition to the palaces Michelangelo is said to have arranged the Piazza, and placed the equestrian statue of Marcus Aurelius in the middle; he is said to have designed the crowning cornice of the Farnese Palace, and the top story of its cortile.

In 1546 Antonio da San Gallo the younger died, and on 1st January 1547, just before he was seventy-two, Michelangelo was appointed architect to St. Peter's for life, and he worked for nothing, having refused all offers of remuneration. It is very difficult to know exactly what Michelangelo did, but that we can partly see in Baron H. de Geymüller's work, and we know that Michelangelo endeavoured to carry out Bramante's design; but what part of the aisles and transept he did, and how much of the vaulting, we know not, because some of his work was pulled down by Carlo Maderno. We are only sure that he designed and built the drum and left a model of the dome copied from Brunelleschi's dome of the cathedral at Florence. Brunelleschi had studied every dome he could see, and was always making models and experiments; and the dome, too, was a pointed Gothic dome, with a very small lantern. Michelangelo made a sonnet to the dome of the cathedral at Florence. "I am going to make your sister bigger, indeed, but not handsomer, than you." * But the diameters given are the same, though St. Peter's is a little higher, but both are less than the Pantheon at Rome by about three feet. Although a dome, it is not a simple thing to design. It may be roughly said that if the curve be a catenary, the fulness or straightness of the curve depends on the weight of the lantern. Wren, being a mathematician, knew this, and so carried his lantern on a cone and made the dome of wood. I recollect Savage, who built St. Luke's at Chelsea, showing me the weighted clock-chains he had used to get the section and the abutments of his vaults. Ware says, "Michelangelo was more fortunate in having Giacomo della Porta to build his dome than Bramante was in having Michelangelo." But though Giacomo della Porta made Michelangelo's dome more pointed, it has cracked, and is only now kept up by the seven chains that tie it in [fig. 7]. The Marquis Poleni, the mathematician, wrote a book on the dome of St. Peter's, dedicated to Benedict XIV. and published in Padua A.D. 1748. We were unlucky last year in losing our dear friend E. W. Tarn, the architect and mathematician, who would have found a pleasure in solving all these problems. However, the cracks in the buttresses of the drum and cracks elsewhere are very apparent, as I saw when I went up into the ball in 1898.

We must give a just tribute to Michelangelo for his noble drum. We can hardly do so for the dome, which, as far as it goes, is Giacomo della Porta's, though its shape was probably hampered by the respect paid to his predecessor's model. In architecture to choose a form that will not stand without the use of iron chains can hardly be looked upon as a merit.

Michelangelo died 18th February 1564, leaving unequalled masterpieces in sculpture, painting, and architecture, and enriching his native language with poetry; with the additional merit, in spite of his furious temper and parsimonious habits, of winning the admiration, if not the love, of one of the best, greatest, and most beautiful women of her day, Vittoria Colonna, Marchioness of Pescara.

Pirro Ligorio (1490–1580) was a Neapolitan painter and architect, and was appointed by Pope Paul IV. (Caraffa), Pope from 1555 to 1559, who was also a Neapolitan, with Jacopo Barozzi da Vignola, to relieve Michelangelo of some of his work, especially when it involved going up ladders, but they were not to interfere with his designs. Michelangelo died February 1564 and Ligorio got the post from Pope Pius IV. in September 1564, in conjunction

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* "Io farò la tua sorella
Più grande già,
Ma non più bella."

with Vignola as joint architects (he or they having a salary of 300 ducats per annum). Ligorio designed the Porta Pia for Pius IV. or V., but Pius V. (Ghisleri, Pope from 1566 to 1572) discharged him for altering, or proposing to alter, Michelangelo's design and for saying that Michelangelo was in his second childhood. In 1566 he is said to have done work at the Villa d'Este at Tivoli. He settled at Ferrara by invitation of Alfonso II., the Duke of Ferrara, who paid him 25 golden crowns a month as his architect. He left a large number of illustrations of antique buildings, said, however, to be very incorrect. Thirty-five volumes of his sketches were made for Queen Christina of Sweden. The late Dr. Middleton published some of his sketches, among which was the ancient Senate House at Rome.

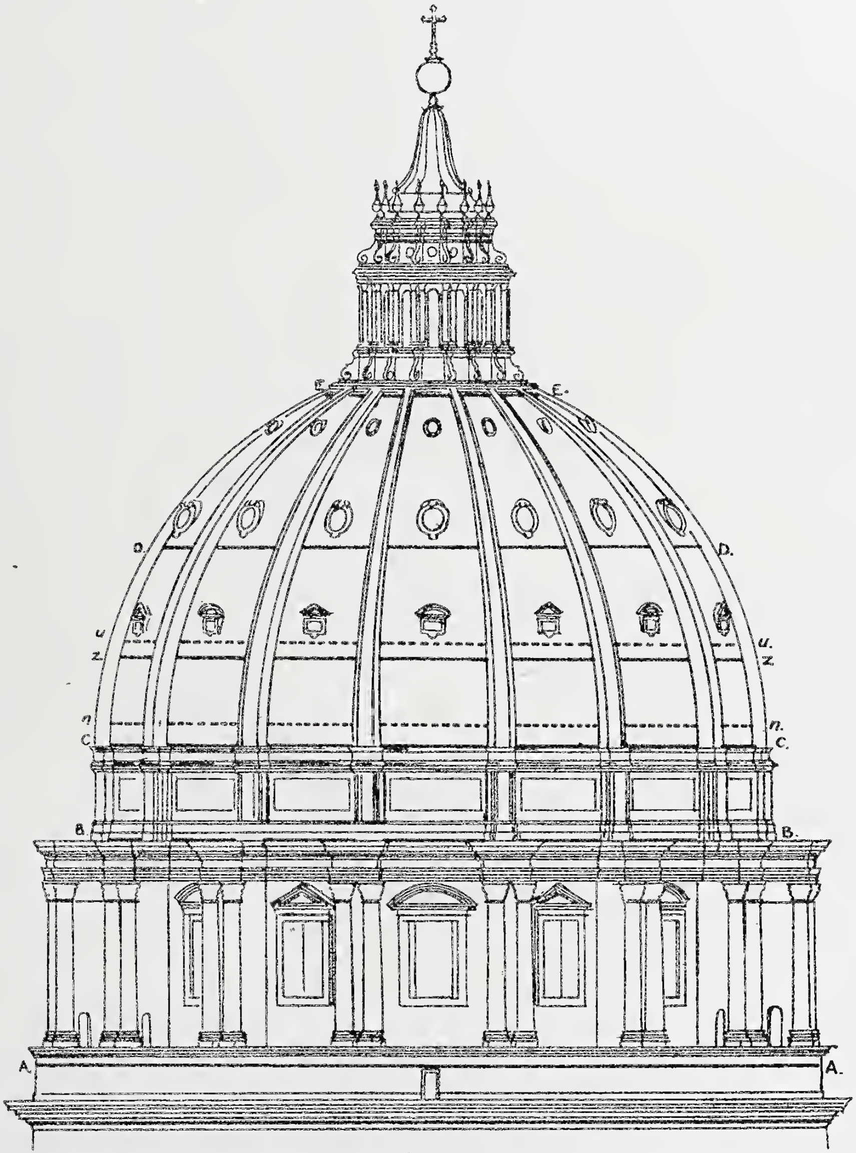

FIG. 7.—THE DOME OF ST. PETER'S, SHOWING THE BANDS ROUND THE DOME AND DRUM. FROM POLEN

Jacopo Barozzi da Vignola (1507–1573) lost his father when he was very young, and during his childhood he was sent to Bologna to study painting, but, not having much taste for painting, he took to the study of perspective and architecture; he subsequently went to Rome, meaning to study painting, in the hope of being of assistance to his poor family. He made drawings for Jacopo Melighini of Ferrara, architect to Paul III. At Rome there was a society of noblemen and gentlemen who met for the purpose of reading Vitruvius, among whom was Cervini (afterwards Pope Marcellus II.), and Vignola was employed to take measurements of all the Roman antiquities. Primaticcio came to Rome, and Vignola was employed by him to get models of the antique sculpture, which Primaticcio took back to France. Vignola accompanied him to France, and was employed in casting the statues from the models and in architectural works. He is said to have made a design for a palace in France, but was principally engaged in perspective backgrounds for Primaticcio at Fontainebleau. He returned to Bologna to conduct the works at San Petronio, but his principal work there was a canal. He is said also to have built some palaces in Bologna or in the neighbourhood. Not being satisfied with his remuneration for executing the canal, Vignola went to Piacenza and designed a palace for P. L. Farnese. As I told you when speaking of Michelangelo, Vignola did some work at the Farnese Palace; in fact, is said to have profiled the great cornice for him. In 1550 Julius III., who had been Legate at Bologna, was elected Pope. On Vignola's introduction by Vasari to the Pope he was appointed architect to his Holiness, and received from him the charge of the Aqua Vergine and of the works at his vineyard. Before beginning anything the Pope obtained drawings from Vasari, which were considered and corrected by Michelangelo, and from these drawings Vignola designed many rooms and halls. He also erected for the Pope S. Andrea Apostolo da Ponte Molle. On the death of Julius III. (1555), and under Marcellus II. and Paul IV., he constructed the celebrated Villa Caprarola, near Viterbo, on foundations laid by Antonio da San Gallo the younger; and when Ligorio was dismissed by Pius V., Vignola remained sole architect of St. Peter's until his death; but the only works erected by him there are said to be the lateral cupolas. He is said to have finished the Porta del Popolo, begun by Michelangelo. Giacomo della Porta was his pupil. He is also said to have done work at the Villa d'Este at Tivoli. The Manor House at Kelstone, near Bath, was built in 1587, it is said, from the design of Vignola. He is said to have been asked to examine and advise upon the twenty-two designs for the Escurial procured in Italy by Baron Martirano, and to have composed a design for a palace with the best parts of each design, which gained him an invitation to Spain by the Spanish Government, but he declined on account of his age, health, and duties at St. Peter's. His treatment of rustications, and of door and window dressings, has been pronounced unrivalled. He was attacked by fever in Rome, and, after six days' illness, died on 7th July 1573, aged 66, and was buried in the Pantheon.

Vignola is said to have written two books—one a treatise on the *Rules of Practical Perspective*, published at Rome 1583, after his death, and his work upon the Five Orders of Architecture. The last plate in this work gives the famous cornice of the Farnese Palace. An edition of the last-named work is said to have been published in London in 1655.

Giacomo della Porta worked under C. Solari (il Gobbo) as an ornamental plasterer; he then studied architecture under Vignola and practised at Rome, chiefly for Pope Gregory XIII. He was appointed by Sixtus V. as architect to St. Peter's. He executed the dome, for which Michelangelo left a model to be built on his drum. He is said to have completed the dome in twenty-two months, 600 persons working continually on it by day and sometimes by night. He began it on the 15th July 1588 and finished the dome on the 14th May 1590 and the lantern on the 16th August 1590. He is said to have given a little more height to the dome, and he decorated its interior with mosaic and did some of the marble pavement of the nave. He and Domenico Fontana (who was the second architect, said to have been appointed by Sixtus V.) were both, we suppose, engaged on the doming.

D. Fontana's principal title to distinction was the removal of the obelisk from the circus of Caligula to the front of St. Peter's, and getting it up in its place. There are in the model room of St. Peter's models and drawings of the methods employed. There is a bronze inscription placed on the base of the obelisk, by order of the Pope, to this effect:

"Domenicus Fontana
Ex Pago agri novocomensis
Transtulit et erexit."

Sixtus V. employed Fontana in the erection of the other obelisks in the Piazza del Popolo, that of S. Maria Maggiore, and S. Giovanni Laterano. He is said also to have removed the two colossal statues said to be Castor and Pollux and the famous bronze horses from the Baths of Constantine to the top of the stairs to the Capitol. Fontana also restored the columns of Trajan and Antoninus. He afterwards became architect to the King of Naples. He left a folio volume on the removal of the Vatican obelisk. It is said that Sixtus V. had the executioner in the Piazza of St. Peter's, when the obelisk was raised, and told Fontana he would have his head cut off if there were any accident; it is said that Fontana had a horse ready at every gate of Rome that he might escape in case of an accident, although he had taken every precaution to prevent it, and in spite of the story about wetting the rope there seems from the drawing to have been ample means of getting it up to its place.

Giacomo della Porta was taken ill at the gate of S. Giovanni Laterano at Rome in 1601 or 1604, and died, aged 65.

Carlo Maderno, a Lombard architect (1556–1629), was born at Bossone, in the Comasco, and went to Rome in consequence of the position of his uncle, Domenico Fontana. His profession was that of an ornamental plasterer, but from working with his uncle and studying his works he became an architect. He replaced his uncle on his death in 1607, and worked under ten popes, all of whom regarded him with favour. He is said to have built the Church of S. Maria sopra Minerva. His design for the front of St. Peter's having been selected out of nine in competition, he was appointed architect to St. Peter's on 5th November 1607 by Paul V., on the death of Giacomo della Porta and Domenico Fontana.

In 1608 Maderno began the nave and aisles, changing the plan from a Greek into a Latin cross. The present front was approved on 18th July 1612, the narthex was roofed on 12th December 1614, and the confession and the crypt made in 1607–1617. The Basilica of St. Peter's was consecrated 18th November 1626 by Urban VIII. (Barberini). He enlarged the Palace of Monte Cavallo. In 1614 he removed a white marble Corinthian column from the ancient Temple of Peace, now called the Basilica of Maxentius, to the Piazza of S. Maria Maggiore, placing it on a pedestal and completing it by a cap, and putting on it a bronze statue of the Virgin. He was sent to Perugia to divert the waters of the inundation from the River Chiana. On his return to Rome he was given the Order of the Golden Spur and a gold chain. He completed the Lancellotti Palace, he designed the Mattei di Giove Palace, and he began the Palazzo Barberini in 1624, and designed buildings at Castel Gandolfo for Urban VIII., and the fountains in front of St. Peter's and the one in the Belvedere of the Vatican. He made many designs for buildings abroad; in fact, after his completion of St. Peter's, he was much run after all through Europe. He got very infirm towards the latter part of his life and had to be carried to see his works. He died on 30th January 1629 or 1630. All his designs, as far as I have seen them, appear to be extremely commonplace. He was succeeded by Bernino as architect-in-chief of the Palace, with F. Borromini as his assistant.

Giovanni Lorenzo Bernino (7th December 1598–28th November 1680) was the son of Peter Bernino, a sculptor and painter, and his wife Angelica Galante, a Neapolitan, whom Peter married when he was in Naples. On 7th December 1598, his son G. Lorenzo was born. The father had returned to Rome and was in the service of Cardinal Farnese. At the age of eight, to the astonishment of everyone, Lorenzo carved a child's head in marble. Young Bernino, though a child, admired the antique works at Rome and also the works of Michelangelo and Raffael, and in order to study these great minds he was for three years locked in the Stanze of the Vatican from daylight to dark. A marble head which is in the church of S. Potenziana was done by him when he was scarcely ten years old. Pope Paul V., on hearing of this, desired to see the boy, and when he was brought to him asked him in joke if he could draw a head in pen-and-ink. Lorenzo asked him whose head he wanted; the Pope replied, "If it is so, you can do anything," and told him to draw a head of St. Paul. Lorenzo did it in half an hour, so the Pope put him in charge of Cardinal Barberini, a great amateur and writer, and gave him both hands full of gold medals, and, turning to the Cardinal, said, "Let us hope that the boy will become the Michelangelo of this age." But this, instead of making him conceited, only urged him to fresh exertion, and when he came of age he confessed that as yet he had never pleased himself. It happened one day that Annibal Caracci, with other virtuosi, came to St. Peter's, when Annibal said, "Believe me, he has yet to perfect himself; but when he has such prodigious talent with such surroundings he has to make two masses proportionate to the vastness of this temple." When Bernino was forty he saw some of his statues at Cardinal A. Barberini's and broke out in these words: "Oh, how little progress I have made in the art of sculpture in so long a course of years, when I know that I handled marble in this fashion when I was a child!"

When Bernino was about fifteen he sculptured with his own hands a figure of S. Lorenzo upon the gridiron for Leoni Strozzi, which was put in his villa, and afterwards, for Cardinal Borghese, "Æneas carrying the old Anchises," a figure rather bigger than life, so it is no wonder that the same Cardinal immediately ordered a statue of David, "not of less size than that by Michangelo," in the act of slinging the stone in the front of the Philistine Giant. The same Cardinal ordered a group of "Daphne and the Youthful Apollo," as she was in the act of being transformed into a laurel. He also carved for the Cardinal a "Rape of Proserpine."

About this time he began to apply himself closely to the study of architecture and painting, and for two years he remained devoted to painting. One of his great works was the set of four extraordinary columns of metal which support the baldachino with its top. Almost everyone knows the columns, for they are shown in one of Raffael's cartoons; they are abominable corkscrew columns ornamented by spiral flutings alternating with floral ornament and with composite capitals sustaining an entablature, with the top like the tester of a bedstead, and with little flaps that hang down all round it. For this work, which is like a bad piece of upholstery in bronze, the bronze casings of the bressummers and the bronze vault with silver enrichment at the Pantheon were melted. The baldachino is said to stand 95 feet to the summit of the cross, and 8,374 lbs. of bronze were used. What was not found at the Pantheon was bought by Urban VIII. at Venice. The cost of the gilding alone is said to have been 40,000 scudi, and the whole baldachino cost 100,000 scudi. So much admiration did this piece of work create at the time, that a contemporary writer says: "This stupendous work came to an end in the space of nine years, and then the Pope desired to recompense the artificer, but it appeared to him well first to hear what was the opinion of different persons of great dignity who had been called together for this purpose." Many said many things; to one it appeared that a chain of gold of the value of 500 ducats should be given to Bernino. This opinion was reported to the Pope, who, smiling, said: "Bernino shall have the gold, and the chain shall be to him who gave this fine counsel;" and he gave to Bernino 10,000 scudi as well as some pensions, and to his two brothers canonries.

Cardinal Richelieu never ceased pressing Cardinal Antonio Barberini to get Bernino to carve his bust, and when it was done Richelieu sent him a jewel of diamonds. In the year 1644, the last year of the Pontificate of Urban VIII., King Louis XIII. of France tried through Cardinal Mazzarino to persuade Bernino to come to France and stay, with an annual provision of 12,000 scudi, but Bernino declined. The Pope wanted to raise in the Piazza Navona a great obelisk brought by the Emperor Antoninus Caracalla, which had been for a long while buried at Capo di Bove. He wanted it to be a finish to a noble fountain, and made the first architects in Rome send in designs, without giving any order to Bernino. It is hardly worth while wasting your time with an account of this ridiculous fountain, but the late Professor Donaldson used to dwell with great gusto on the Pope's visit to the fountain with Bernino.

In the year 1664, when King Louis XIV. was deliberating on enlarging with regal magnificence his Palace of the Louvre, he had had many designs sent in by his own architects, but, wishing to proceed according to his high taste, he wished to have the opinion of our artificer, and Bernino was written to by Colbert. Louis XIV. afterwards, in 1665, wrote to Cavalier Bernino, inviting him to come to France. Bernino did come to France and saw Perrault's design, and at Paris Sir Christopher Wren saw Bernino and just looked at his sketch-book. Bernino left Rome on the 25th April 1665, and on his arrival in France was treated with the same dignity that would have been shown to any king. He said very generously to Louis XIV. that he could not have anything better than Perrault's design, and the King, who was not too liberal to his own architects, presented him with 20,000 crowns and an annual pension for life of 2,000 more, as well as 500 crowns to his son Paul. He carved a colossus of Louis XIV.

One of the things that Bernino did was the tomb of Urban VIII., with some simpering damsels sitting on each side of the sarcophagus, from which a skeleton with wings is flying out, and the Pope is seated on a pedestal above with his robes and mitre. He also carved a bust of Charles I. of England, Van Dyck's portraits being lent him for the likeness. Some slight mention has been made of Bernino's celebrated Doric colonnade round the Piazza of St. Peter's for Pope Alexander VII. There are 320 columns, 4 feet 5¾ inches diameter, but the frieze is without triglyphs. His Scala Regia to the Vatican is cleverly managed, but the architecture is very coarse.

Bernino died on the 28th November 1680, about midnight, after fifteen days of fever. After his death his fortune was said to be 400,000 crowns, and Queen Christina of Sweden, who lived at Rome and was a great admirer of Bernino's work, told the Pope that if anyone had served her as well as Bernino had served him she should have been ashamed for him to die so badly off.

Bernino's fate should be a warning to all young artists. He was a very clever fellow, of great versatility and industry, but instead of emulating the achievements of his great predecessors, he merely followed the level of the bad taste of his age. He got great applause, however, and wealth, but has now become a byword for bad taste and the extravagant poses of his figures. I never saw any of his pictures. A wit at Rome said of the statues of our Saviour and St. Peter by Bernino, or one of his school, on the Ponte Molle, that St. Peter is saying to our Saviour "Entrez, Monsieur," and our Saviour replies, "Après vous, Monsieur."

I have given, as I promised, a slight sketch of all the architects actually engaged on St. Peter's.

9, Conduit Street, London, W., *7th Dec.* 1901

CHRONICLE.

Postponement of the Paper on "The Palace of Knossos."

Mr. Arthur Evans having, for reasons of health, been obliged to postpone his Paper on "The Palace of Knossos in Crete," which was to have been read at the Meeting of Monday, the 16th December, the Council have decided that the General Meeting fixed for that day shall not take place.

The President.

The President, Mr. Wm. Emerson, is leaving England on business connected with his private practice, and is not expected to return before February.

The New Government Buildings.

The following correspondence has passed between the Council of the Royal Institute and the First Commissioner of Works:—

Royal Institute of British Architects, 9, Conduit Street, Hanover Square, London, W., November 8, 1901.

To the Right Hon. A. Akers-Douglas, M.P., First Commissioner of Works and Public Buildings, Storey's Gate, S.W.

Sir,—The Council of the Royal Institute of British Architects have taken the opportunity of their first meeting of the session to pass a unanimous resolution that representations be respectfully addressed to his Majesty's Government with regard to the present proposal to execute the new Government buildings in Parliament Street from the late J. M. Brydon's designs without the aid of a specially appointed architect of repute.

The Council, with the warm support of the Presidents of all the Architectural Societies in the United Kingdom in alliance with the Royal Institute, whose names are appended as signatories to this letter, venture to express the earnest hope that, even at this eleventh hour, an architect in sympathy with Mr. Brydon's artistic ideals may be appointed to superintend the erection of this vast building, which, if not very carefully detailed in the spirit in which it was designed, will lose much of the grace with which Mr. Brydon, had he lived, would have clothed it. They would also, with all deference, point out that it is only during the execution of his building that the architect himself arrives at the true development of his original conception, so that for the successful execution of work of this important character, the inventive genius of a sympathetic colleague of the original designer is essential.

The Council of the Royal Institute of British Architects earnestly and respectfully urge the above considerations upon the attention of his Majesty's Government.

We have the honour to be, Sir,
your most obedient servants,

William Emerson,
President Royal Institute of British Architects.

Thomas Drew, Kt.,
President Royal Hibernian Academy (Member of Council R.I.B.A.).

George C. Ashlin,
President Royal Institute of the Architects of Ireland.

F. Marshall,
President Sheffield Society of Architects and Surveyors.

S. Perkins Pick,
President Leicester and Leicestershire Society of Architects.

Alfred Darbyshire,
President Manchester Society of Architects.

John James Burnet,
President Glasgow Institute of Architects.

Frank Caws,
President Northern Architectural Association.

Frank W. Wills,
President Bristol Society of Architects.

Arthur Marshall,
President Nottingham Architectural Society.

F. M. Simpson,
President Liverpool Architectural Society.

W. H. Bidlake,
President Birmingham Architectural Association.

Butler Wilson,
President Leeds and Yorkshire Architectural Society.

H. G. Luff,
President Devon and Exeter Architectural Society.

James P. Bruce,
President Dundee Institute of Architecture, Science, and Art.

C. H. Channon,
President York Architectural Society.

Edwin Corbett,
President Cardiff, South Wales, and Monmouthshire Architects' Society.

Arthur Clyne,
President Aberdeen Society of Architects.

H.M. Office of Works, Westminster, S.W., November 28, 1901.

Sir,—I am directed by the First Commissioner of his Majesty's Works &c. to acknowledge the receipt of your letter of the 8th inst., together with a resolution signed by the President of the Royal Institute of British Architects and others; and to say that Mr. Akers-Douglas quite appreciates the point of view of those who would prefer some other method of carrying out Mr. Brydon's work than that upon which he has decided.

It was, however, after careful examination, during which none of the considerations now urged were overlooked, that the decision to carry out the designs by the agency of Mr. Henry Tanner, F.R.I.B.A., the principal architect of this Department, was arrived at.

I may say frankly that among architects of high repute the First Commissioner failed, after some confidential inquiry, to discover any one sufficiently in sympathy with Mr. Brydon's artistic ideals to subordinate his own inventive genius to that of the original designer.

It appeared to Mr. Akers-Douglas due to the memory of Mr. Brydon that his work should remain intact, and that the designs which he left should be carried out with as little variation as possible. The question as to whether these drawings are in a sufficiently complete state to enable this to be done is one upon which the First Commissioner is aware opinions differ; but he has confidence in the judgment of his technical advisers, and he will be ready to exhibit these drawings to Parliament should his action as a Minister of the Crown be hereafter questioned.

I am, Sir, your obedient servant,
Esher.

The Secretary, Royal Institute of British Architects,
9, Conduit Street, W.

The Times of the 4th inst. publishes the following correspondence between Sir John Aird, M.P., and the First Commissioner of Works :—

37, *Great George Street, Westminster, S.W.,*
Nov. 27, 1901.

Dear Sir,—As I take a special interest, as a London member, in the new public offices which are to be erected in Westminster, I have noticed the comments which have appeared in the Press lately as to the action taken by you as regards the execution of the late architect's designs.

I think, notwithstanding what you have said in Parliament from time to time, that there must be a good deal of misconception, which it would be desirable to clear up, as to the course which you have decided to follow. I certainly understood that your experienced architects would carefully supervise the faithful execution of Mr. Brydon's plans on the lines of the details indicated by him, for which I have understood he left abundant materials.

Personally I remember the care which you took at the outset in the selection of the architects, and I cannot think that you have now left the matter in the position in which it has been represented to be. I should much like to be able authoritatively to say that there is no ground for the great uneasiness which would appear to be felt in some quarters in reference to this important subject.

Yours faithfully,
John Aird.

Right Hon. A. Akers-Douglas, M.P.

H.M. Office of Works &c., Dec. 2, 1901.

My dear Sir John,—I am happy to comply with your request for information as to the course which I have taken with regard to the architect of the new public offices at Westminster.

In order to do this more clearly, it may be best for me to revert to the measures originally adopted by the Government for the selection of architects for the offices in Whitehall and Parliament Street.

With a view to obtain the services of the best professional talent, I requested the Council of the Royal Institute of British Architects to furnish me with a panel of leading architects competent to design large buildings of classical character, from amongst whom I might make a choice. The architects named in this list were invited to submit to the Government portfolios of drawings of their works, and, as a result, Mr. W. Young and Mr. J. M. Brydon were commissioned to prepare plans for the new War Office and the new offices in Parliament Street respectively.

The designs, having been approved by the Government, were exhibited at the House of Commons, and were also reproduced in the architectural and other illustrated newspapers. They were favourably received by Parliament and by the Press. But before final orders were given to proceed with their execution they were submitted for criticism to an advisory committee. This committee, formed to advise me on matters of general design, was composed of the President of the Royal Institute of British Architects, together with Mr. Aston Webb, Sir John Taylor, and the two selected architects.

In each case, before tenders for the superstructure were invited, the architect died; but in both instances the designs had been revised by the architects themselves and agreed on, and the general drawings were practically completed.

For the War Office the Government retained the services of Mr. Clyde Young, son of the deceased architect, who had been associated with his father in the preparation of the plans and designs, and appointed him to carry out the work in conjunction with Sir John Taylor, Consulting Architect to the Office of Works.

The question of the other block of buildings was less easy. Mr. Brydon left no son or partner to succeed him. It seemed to the Government to be out of the question to abandon his plans after the large sum already expended on them, and on the foundation works; and if his designs, which are still satisfactory to the Government, are to be carried out they should be executed in their integrity.

I satisfied myself, after careful inquiry, that this object would be best secured by entrusting the execution of the plans to the architects of my own Department.

Fortunately, very abundant materials existed for ascertaining Mr. Brydon's intentions. His executors handed over to the Office of Works complete plans, elevations, and sections, to the scale of 10 feet to an inch; also full, careful, and clearly drawn half-inch-scale details of all the important parts. The work of carrying out these designs was placed in the hands of Mr. Henry Tanner, Principal Architect to the Department, who is a Fellow of the Royal Institute of British Architects, and the winner of their Tite Prize for classical design in 1878. Thus qualified, Mr. Tanner may fairly claim to have been recognised by that body as possessing talent for sympathetic treatment of the work.

The employment of Mr. Tanner has the great advantage of securing that the building shall be erected with every regard to the requirements of the Departments which will occupy it; and for this end not only Mr. Tanner's own great experience in the erection of very large public buildings, but that of Sir John Taylor (who will be in consultation with him), will be available. Such saving of cost as there may be by this arrangement has only weighed with me as a secondary consideration.

It is obviously unfair to speak of this work, as many do, as if it had been handed over to draughtsmen or architectural clerks, or as if the attention of the Office of Works staff would be given to it in the intervals of ordinary official duties. On the contrary, I have made arrangements in the Department to relieve Mr. Tanner of much of his ordinary business; and Mr. Brydon's chief assistant, who prepared a large proportion of these drawings under Mr. Brydon's direction, has been engaged to assist in working out such details as yet have to be made up. I have confidence in the judgment I have formed, upon the advice of my professional staff, that this development of the drawings can be faithfully and effectually executed. I shall be prepared to exhibit Mr. Brydon's designs, stamped and signed as being those handed over by his executors, for the information of Parliament, and to defend my action if it should be questioned.

As a further guarantee that Mr. Brydon's work shall be respected, I propose that no variations in the external elevations shall be made without the assent of the advisory committee above mentioned, on which Mr. Wm. Emerson (President of the Royal Institute of British Architects), Mr. Aston Webb, and Sir John Taylor will act; and, in the improbable event of any suggestions for such variations being put forward, I will refer them to this committee.

I venture to think that when my action is fairly considered in the light of the full facts it will be held to have been justified.

With your consent, I am sending this correspondence for publication.—Believe me yours very faithfully,

Sir John Aird, Bart., M.P. A. Akers-Douglas.

In a letter to *The Times* which appeared on the 5th inst. Mr. Leonard Stokes writes:—

The thanks of the thinking public as well as those of all architects are due to *The Times* for the admirable way it has dealt with this matter on more than one occasion, and, if I may, I should like to say one final word—as Brydon's executor—on the subject.

We are told "frankly" that the First Commissioner of Works failed, after confidential inquiry, to discover an architect of high repute who would subordinate his own inventive genius to that of the original designer. He therefore thought fit to entrust the work to Mr. Henry Tanner, F.R.I.B.A., chief architect to the Office of Works. Would it be troubling Mr. Akers-Douglas too much to ask for a hint as to the direction in which these "confidential inquiries" were made? I know more than one architect of repute, and I cannot help thinking that at least one of them would have entertained the idea, had it been put to him nicely. It would also be interesting to know the views of the advisory committee Mr. Akers-Douglas tells us of on the whole question—*i.e.* if they have been consulted? I happen to have private information on this head, but, of course, I cannot use it here.

May I further trouble Mr. Akers-Douglas with the information that he can never hope to "retain his (Brydon's) work intact," as the drawings which I handed over to him—and for which he paid only two-fifths of the whole fees due—are nothing like complete enough to ensure this? Some other individuality must creep into the building. We had hoped that this might have been the individuality of an outside architect of repute, but fate appears to have decreed otherwise.

It is absurd, under a mistaken sense of loyalty to Brydon's memory, to blindly carry out this great work from details hurriedly made by him, for he would have been the first, as the work proceeded, to thoroughly amend these drawings himself, but the last, I fancy, to ask the Office of Works to do so for him.

THE NOVEMBER EXAMINATIONS.

Preliminary.

A Preliminary Examination, qualifying for *Probationership R.I.B.A.*, was held simultaneously in London and the provincial centres indicated below on the 5th and 6th ult. One hundred and eighty-eight candidates were admitted, and 37 were exempted from sitting. The remaining 151 were examined, with the following results:—

	Total Examined	Passed	Relegated
London	74	59	15
Birmingham	11	8	3
Bristol	10	7	3
Exeter	7	3	4
Leeds	26	20	6
Manchester	23	17	6
	151	114	37

The following are the names of the successful candidates, together with those exempted, making a total of 151 newly registered Probationers:—

ALLEN: William Litchfield; 48, Acacia Road, Regent's Park, N.W. [*Master*: Mr. Joseph Sawyer*].

ATWELL: Frank Leslie; 12, Wrottesley Road, Plumstead, S.E. [*Masters*: Messrs. J. Oldrid Scott* & C. R. B. King*].

AXTEN: Herbert Joseph; 2, Rosebery Terrace, Crouch End, N. [Polytechnic Architectural School].

BARLOW: Charles Henry; 17, Derby Road, Widnes [*Master*: Mr. Robert Garnett].

BECK: John Jackson; Iuvcresk, Thorne Road, Doncaster [*Masters*: Messrs. Athron & Beck].

BELCHER: Alan Leslie; 28, Harold Street, Brixton, S.W. [*Master*: Mr. John Belcher, A.R.A.*].

BENSLYN: William Thomas; 29 Bath Row, Rounds Green, Oldbury, near Birmingham [King Edward's School, Birmingham].

BERNTON-BENJAMIN: Horace Eugene; Eton College, Windsor.

BOLTON: Albert; 151, Main Street, Bingley [*Master*: Mr. Abraham Sharp].

BOULTON: Arthur; 79, Commercial Street, Dundee, N.B. [*Masters*: Messrs. Charles Ower & Co.].

BRAMELD: Thomas; 26, Westcott Street, Hull [*Master*: Mr. John M. Dossor*].

BURROUGHS: James Edward Godfrey; 15, Manilla Road, Clifton, Bristol [*Master*: Mr. H. Dare Bryan].

CARNELLEY: Herbert; Southfield House, Barnsley, Yorks [Giggleswick School].

CARVER: William; 390, City Road, E.C. [*Masters*: Messrs. Clare & Ross*].

CHARLTON: Ernest Stewart; York Cottage, Tunbridge Wells [*Master*: Mr. C. H. Strange*].

CHERRY: Harold Griffith; 16, St. Peter's Street, St. Albans [*Master*: Mr. Percival C. Blow*].

CHIPPINDALE: Clement; Lyndale, Harrogate [*Master*: Mr. T. E. Marshall].

CHRISTIE: Harold Hutton; 46, Gledstanes Road, West Kensington [St. Paul's School, W. Kensington].

CLARK: Wilfred Thorp; Eversley, Haughton Road, Birchfields, Birmingham [*Master*: Mr. John G. Dunn*].

CLARKE: William Thomas; 1, Fairfield Crescent, Fairfield, Liverpool [*Master*: Mr. Ware].

COCHRANE: Robert Hawkin; 17, Highfield Road, Rathgar, Dublin [Rathmines High School].

COCKER: John; Oakwood, Park Road, Timperley [*Master*: Mr. J. T. Ashton].

COCKRILL: Gilbert Scott; 139, High Street, Gorleston, Great Yarmouth [East Anglian School].

COLLINS: Henry Richard; 11, Howell Road, Exeter [Clifton College, Haslemere].

CONSTABLE: Arnold Sutherland; 4, South Parade, Stocksfield-on-Tyne [*Master*: Mr. John Walton Taylor *]

COOKE: William Henry Howard; Badbrook House, Stroud, Glos. [*Master*: Mr. V. O. Lawson].

COOPER: Archibald; The Laurels, High Street, Rickmansworth [*Master*: Mr. A. D. Watson *].

DABBS: Frank Conrad Butteau; 129, Clapton Common, N. [*Masters*: Messrs. Still, Wheat, & Luker].

DANIELL: George Francis Blackburne, B.A.Cantab; 19, Fopstone Road, S.W. [*Master*: Mr. Aston Webb, A.R.A. *].

DAVIDSON: James Sylvar Butchart; Hazelhurst, Kingsgate, Aberdeen [*Master*: Mr. A. Marshall Mackenzie, A.R.S.A. *].

DAVIS: Arthur Henry; 40, Ladbroke Grove, Kensington Park Gardens, W. [University College School].

DEAN: Francis Moorhouse; 15, Northanger Road, Streatham, S.W. [*Master*: Messrs. J. T. Wimperis * & Arber *].

DITCHBURN: David William; 28, Ranelagh Road, Leytonstone, N.E. [*Master*: Mr. Philip A. Todd].

DOUGLAS: Alex. Houston; 232, Portsdown Road, Maida Vale, W. [*Master*: Mr. E. W. Mountford *].

DOUGLASS: Andrew; Hepscott, Morpeth [*Master*: Mr. W. H. Knowles, F.S.A.*].

DRANSFIELD: Gordon Burdett; Longsight, Darton, Barnsley, Yorks [Wakefield Grammar School].

DUNCAN: William Tees; Ingle Nook, 376, Bury Road, Rochdale [*Masters*: Messrs. S. Butterworth & Duncan].

DUNN: Alick; Beechcroft, Woodlands Road, Moseley, Birmingham [*Master*: Mr. A. J. Dunn *].

EDMONDS; Eric; Stamford Grammar School, Lincs. [Stamford Grammar School].

EDWARDS: Alfred Hewlett; 183, Hinckley Road, Leicester [*Masters*: Messrs. Draper & Walters].

EDWARDS: Arthur Cecil Morris; Bank House, Rickmansworth [*Master*: Mr. Arnold Mitchell *].

ENGLAND: Ernest Sugden; 55, Albert Road, Blackpool [*Master*: Mr. E. Grubb].

ETHERINGTON-SMITH: Harry Launcelot, B.A.Oxon; East Ella, Putney, S.W. [*Masters*: Messrs. Read * & MacDonald *].

FAULKNER: Edward Willoughby Cole; Ingleside, Freshfield, near Liverpool [University College, Liverpool].

FEARN: Walter Granville; Clacton College, Clacton-on-Sea [Clacton College].

FIELDING: Haworth; Whalley House, Accrington, Lancs. [*Masters*: Messrs. Grimshaw & Cunliffe].

FITZ-ROY: Algernon Hugh; Cliff Hill Villa, Cross Cliff Hill, Lincoln [*Masters*: Messrs. Watkins * & Son *].

FOSTER: Frank Burwell; 4, Euston Place, Leamington [*Master*: Mr. Fredric Foster].

FOX: Harold James; Teignmouth House, 8, Amhurst Park, Stamford Hill, N. [*Masters*: Messrs. Ford,* Son, & Burrows].

GARDNER: Donald Saunders; The College, Weston-super-Mare [*Masters*: Messrs. S. J. Wilde & Fry].

GOODCHILD: John Howard; Rosslyn, Haslemere Road, Crouch End, N. [*Master*: Mr. J. Wallis Chapman].

GRIBBON: Blakeley Rinder; c/o Messrs. Chorley, Connon, & Chorley, 15, Park Row, Leeds [*Masters*: Messrs. Chorley,* Connon,* & Chorley *].

GULLY: Arthur Hutton; Honingnest, St. Andrew's Road, Bedford [*Masters*: Messrs. C. E. Mallows * & Grocock].

GUNSON: Reginald Wilson; 230, Plymouth Grove, Manchester [*Masters*: Messrs. W. Telford, Gunson, & Son].

GWYTHER: Bertram Granville; R.I.E.C., Cooper's Hill, Egham, Surrey [Cooper's Hill].

HANSON: George; 28, Southfield Square, Bradford [*Masters*: Messrs. Mawson & Hudson].

HEALEY: Francis Hurst; 145, Wilmer Road, Heaton, Bradford [*Masters*: Messrs. T. H. & F. Healey].

HIGGS: James Hardwick; 37, Lincoln Street, Leicester [*Master*: Mr. A. E. Sawday *].

HILL: Henry Houghton; 148, Chatham Street, Liverpool [University College, Liverpool].

HOBSON: Joseph Reginald; Clevedon, Main Road, New Eltham [Cranleigh School].

HORSFIELD: John Nixon, junior; 11, Penrhyn Road, Kingston-upon-Thames [*Master*: Mr. J. Nixon Horsfield].

HUCKVALE: William Henry; Tring [*Master*: Mr. Huckvale].

KIRK: Alastair Hope; The New Oxford and Cambridge Club, 68, Pall Mall, W. [*Master*: Mr. James Ransome *].

JOLLIFFE: Frederick Richard; 92, Windsor Road, Penarth, Glam. [*Master*: Mr. J. Coates Carter *].

JONES: Basil Wallace; The Lodge, Buckhurst Road, Bexhill [*Master*: Mr. Frank H. Humphreys *].

JONES: George Howard; Ashdene, Cathedral Road, Cardiff [Taunton School].

KELSEY: Leon de Barr; 23, Tregunter Road, South Kensington [St. Peter's College, Westminster].

KENYON: Arthur William; Crowley House, Upperthorpe, Sheffield [*Masters*: Messrs. Hemsoll & Paterson *].

KILLBY: Ashley Scarlett; 10, Aberdeen Park, Highbury [*Masters*: Messrs. Wm. Reddall & Son].

KILNER: Charles Ussher; 37, Kensington Gardens Square, Bayswater, W. [*Master*: Mr. Charles Fitzroy Doll *].

LAMPSHIRE: Stanley James; 78, Fore Street, Devonport [*Master*: Mr. W. Maxwell Opie].

LANGHAM: Albert Arthur; 16, Pelham Road, Wimbledon, S.W. [Southend Technical School].

LANGMAN: Herbert; 29, Shakespeare Street, Southport, Lancs. [*Master*: Mr. F. P. Halsall *].

LAYCOCK: Harry Brooksbank; 17, Park View, Queen's Park, Manchester [*Masters*: Messrs. Moulds * & Porritt].

LAY: Harry George; The Laurels, London Road, Wellingborough [*Masters*: Messrs. Talbot Brown* & Fisher].

LINTON: Thomas; 7, Jessfield Terrace, Leith [*Masters*: Messrs. Peddie & Washington Browne, A.R.S.A.].

LOWRY: James Henry; 42, Grove Street, Liverpool [*Master*: Mr. James N. Crofts].

MAFFEY: Percy John; 18, Park Road, Bellevue, Southampton [Hartley School of Art].

MAJOR: Ernest Harry Norham; 1, Mecklenburgh Square, W.C. [*Master*: Mr. Rowland Plumbe].

MARKWICK: Harold W.; H. M. Gun Wharf, Devonport [*Master*: Mr. T. Rogers Kitsell *].

MASON: Robert Hattrick; 12, Moss Grove, Birkenhead, Cheshire [Liverpool College].

MATTHEWS: Frederick John; 42, Osbaldeston Road, Clapton, N.E. [*Master*: Mr. S. Barrett].

MAULE: Montagu George St. John; Orchard House, Huntingdon [*Masters*: Messrs. Macalister * & Tench *].

MEARS: Frank Charles; Woodburn, Canaan Lane, Edinburgh [*Master*: Mr. Hippolyte J. Blanc, R.S.A. *].

MILLS: Evan Holford; Gateway Chambers, Castle Street, Shrewsbury [*Master*: Mr. H. Teather].

MILLS: Henry Graham Hunt; Tintern Lodge, 52, Clarendon Road, Southsea [St. Helen's College, Southsea].

MILLWOOD: Alfred Mawson; 174, Castelnau, Barnes, Surrey [Latymer Upper School, Hammersmith].

MILNES: Edward; 43, Lord Street, Rochdale [Collegiate School, St. Anne's-on-the-Sea].

MOBBS: Sydney Wilfrid; The Laurels, Oulton, Lowestoft [East Anglian School, Bury St. Edmund's].

MORLEY; Eric; 14, Park Drive, Heaton, Bradford, Yorks. [*Master*: Mr. W. J. Morley *].

MULREADY: Paul William; 68, Dyne Road, Brondesbury, N.W. [*Masters*: Messrs. Pugin & Pugin].

NEGUS: Frederick Turney; 14, Bedford Street, Woburn, Beds. [Mr. T. H. Bishop*].

NEVELL: William Horace; 14, Church Crescent, St. Alban's, Herts [*Master*: Mr. Percival C. Blow].

NEWBOLD: George Edward Hanson; 3, Lewis Street, Gainsborough [*Master*: Mr. E. F. Green].

NORQUOY: James; 40, Manchester Road, Chorlton-cum-Hardy, Manchester [Mr. J. Harold France].

O'CONNOR: Dominick Mary, B.A. & B.E.Dublin; 15, Portland Road, Southall [Queen's College, Cork].

PARKINSON: Sidney Stuart; 9, The Grove, Gravesend [Gravesend Modern School].

PEMBERTON: Guy; 12, Plough and Harrow Road, Edgbaston, Birmingham [*Master*: Mr. F. B. Osborn*].

PETO: Gilbert Eyre; 8, Forester Road, Bath [*Master*: Mr. W. J. Willcox].

PHILLIPS: George Edward; 24, Bateman Street, Cambridge [*Master*: Mr. T. D. Atkinson *].

PIERCE: Arthur Patrick Hector [Auckland, N.Z.]; c/o W. H. Scrymgour, Esq., 13, Lovell's Court, E.C. [*Master*: Mr. W. H. Scrymgour *].

POLEY: Albert Edwin; Willowbank, Hampton Hill, Middlesex [*Master*: Mr. E. W. Poley *].

QUIRKE: William Dathy; 22, Oseney Crescent, Camden Road, N.W. [*Master*: Mr. J. G. Gibbins *]

READ: Norman Loal; Park House, Westcotes Drive, Leicester [*Master*: Mr. Stockdale Harrison *].

REBBECK: Arthur George Edward; Bridge Street, Frome, Somerset [*Master*: Mr. Henry Moore].

ROBERTS: Harry Jones; 48, New Street, Portmadoc [*Master*: Mr. D. O. M. Roberts].

ROBERTS: Robert George; 32 Cartwright Street, Doncaster [*Master*: Mr. A. G. Dalzell].

ROBINSON: Archibald Hurley; 24, Soho Road, Handsworth, Birmingham [*Masters*: Messrs. Oliver, Floyd, & Salt].

ROYCE: Bernard: West Leigh Road, Leicester [*Master*: Mr. W. H. Simpson].

RYLATT: Walter Puckering; Sculcoates House, Beverley Road, Hull [*Master*: Mr. T. Beecroft Atkinson].

SHACKLETON: Harry; 7, Redcliffe Street, Keighley [*Masters*: Messrs. W. H. & A. Sugden].

SHUTE: William Henry; 31, Clytha Square, Newport, Mon. [*Masters*: Messrs. Swash & Bain *].

SMITH: Ernest Harry; 18, Gas Street, Leicester [*Master*: Mr. Arthur Wakerley].

SMITH: John Woodfield: 55, Goldhurst Terrace, South Hampstead, N.W. [*Master*: Mr. J. McBeath].

SMYTHE: James Conran: 1, Anglesey Villas, Ford Park, Mutley, Plymouth [*Masters*: Messrs. King * & Lister].

STEVENS: Robert George; Maycroft, Queen Anne Avenue, Bromley, Kent [Alleyn's School, Dulwich].

STEVENSON: Joseph Daniel; 2, Newlands, Lynwood Road, Redhill [*Master*: Mr. Reginald A. Crowley *].

STOCKTON: Russell; 27, Hamilton Street, Heaton Norris, Stockport [*Master*: Mr. W. Swann].

STOKOE: Ralph; 12, The Oaks, Sunderland [High School, Sunderland].

STOWELL: Hugh Spencer; 65, Addiscombe Road, Croydon [*Master*: Mr. H. W. Heatherington Palmer].

STRATTON: Percy Montagu; Quidhampton, Salisbury [*Master*: Mr. Alfred C. Bothams].

TAYLOR: Laurence Walton; 9, Claremont Street, Newcastle-on-Tyne [*Master*: Mr. John Walton Taylor *].

TEBBS: Charles Edward; 56, Dafforne Road, Upper Tooting, S.W. [*Masters*: Messrs. Middleton * & Carden *].

TEMPEST: Frederick William; 12, Portland Street, Sutton-in-Ashfield, Notts. [*Master*: Mr. Henry Harper].

TEMPLE: Eric Edward; Avenue Lodge, 5, Highview Road, Upper Norwood, S.E. [*Masters*: Messrs. Geo. Baines * & Son].

TERRELL: Claud à Beckett Romako; Judde House, Tonbridge, Kent [Tonbridge School].

THOMAS: Robin Audrey; Anglesey Hotel, Stokes Bay, Gosport [*Master*: Mr. Norman H. Atkins].

THOMPSON: Morris; 9, Regent Square, Doncaster [*Masters*: Messrs. Athron & Beck].

TRENCH: Gilbert Mackenzie; 187, Barry Road, East Dulwich, S.E. [*Master*: Mr. Thomas Arnold *].

TRUELOVE: John Reginald; 24, Wostenholm Road, Sharrow, Sheffield [*Masters*: Messrs. Hall & Fenton].

TUCKER: Richard Froude; Combe Lodge, Upper Teddington, Middlesex [*Master*: Mr. T. G. Jackson, R.A.]

TURNER: Jabez Tennyson; 27, Grove Road, Wanstead, Essex [*Masters*: Messrs. Barnes-Williams,* Ford * & Griffin].

TURNER: Horace George; Myrtle, Avondale Road, South Croydon [*Master*: Mr. John W. Rhodes].

WADSLEY: Michael James; 27, Dover Street, Hull [Hull Grammar School].

WARREN: Percy Francis; Montpellier House, Clarendon Road, Norwich [*Masters*: Messrs. G. J.* & F. W. Skipper].

WATSON: Alexander James; 159, Portland Road, Jesmond, Newcastle-on-Tyne [*Masters*: Messrs. Cackett * & Burns-Dick].

WATSON: Bryan: 3, Rosella Place, North Shields [*Master*: Mr. J. Walton Taylor *].

WHEATLY: Reginald Francis [B.A.Oxon]; Nettlestead, Bromley, Kent [*Master*: Mr. Leonard Stokes *].

WHITE: Howard Enstor; Teneriffe, Forest Road, Moseley, Birmingham [*Masters*: Messrs. Hipkiss & Stephens].

WHITE: Richard Wakeham; 31, Bartholomew Road, Kentish Town, N.W. [Upper Latymer School, Hammersmith].

WHYTE: Alexander Hornby; 63, Sinclair Road, Kensington, W. [*Master*: Mr. F. T. Baggallay *].

WILCOCKSON: Tom Smeaton; Glencoe House, Hasland, Chesterfield [*Masters*: Messrs. Rollinson & Son].

WILKINSON: Leslie: Cyprus, New Southgate, N. [*Master*: Mr. J. S. Gibson*].

WILLATT: Herbert Attenborough; 4, Pelham Road, Sherwood Rise, Nottingham [*Master*: Mr. Watson Fothergill].

WILLIAMS: Edward John; 315, Aylestone Road, Leicester [Middle School, Leicester].

WILLS: John Ross; Dodbrooke, Littleover Hill, Derby [*Master*: Mr. John Wills].

WILLSON: Richard Horace: St. Alban's Lodge, Kingston-on-Thames [*Master*: Mr. A. M. Hudson].

WINDER: John Driver: 9, Bolingbroke Grove, Wandsworth Common, S.W. [King's School, Canterbury].

WITH: Alfred Thomas; 98, Oakfield Road, Anerley, S.E. [*Master*: Mr. W. J. Parker].

WRIGHT: William Oswald; 9, Townley Street, Morecambe, Lancs. [*Masters*: Messrs. Austin * & Paley *].

YELLS: John Arthur; 87, Pellatt Road, East Dulwich, S.E. [*Masters*: Messrs. Treacher, Son, & Fisher].

The asterisk (*) denotes members of the Institute.

Intermediate.

The Intermediate Examination, qualifying for *Studentship R.I.B.A.*, was held simultaneously in London, Bristol, Leeds, and Manchester, on the 5th, 6th, 7th, and 8th ult., with the following results:—

	Number examined	Passed	Relegated
London	52	29	23
Bristol	9	5	4
Leeds	7	3	4
Manchester	11	8	3
	79	45	34

The following are the names of the passed candidates given in order of merit as placed by the Board of Examiners:—

SCOTT: Archibald [*Probationer* 898]; 6, Broompark Terrace, Dennistoun, Glasgow [*Masters*: Messrs. Thos. Dykes & Robertson *].

CRICKMER: Courtenay Melville [*Probationer* 1898]; 15, Albert Road, Regent's Park, N.W. [*Master*: Mr. A. Aitchison *].

ASMAN: Herbert Wilson [*Probationer* 1898]; 30, Randall Terrace, Heaton, Bradford [*Masters*: Messrs. Mawson & Hudson].

HOLDEN: Walter Frederick Clarke [*Probationer* 1899]; St. Paul's Cottage, Hills Road, Cambridge [*Masters*: Messrs. MacAlister * & Tench *].

BRIGHTIFF: Charles Henry [*Probationer* 1900]; 80, Argyle Road, Southampton.

FREEMAN: Willie Josiah [*Probationer* 1900]; 23, Woodbine Terrace, Halifax [*Masters*: Messrs. Jackson & Fox].

GILPIN: Archibald [*Probationer* 1899]; 178, Wells Road, Bristol [*Master*: Mr. William Black].

HAMPSHIRE: Ernest Llewellyn [*Probationer* 1899]; 97, Rye Hill Park, S.E. [*Master*: Mr. Ellis Marsland].

COOK: Vincent Corbet [*Probationer* 1898]; Himley Lodge, Pennfields, Wolverhampton [*Masters*: Messrs Henman * & Cooper *].

ANDERSON: Douglas [*Probationer* 1898]; 7, South End Road, Hampstead [*Master*: Mr. G. Hornblower *].

MUNDELL: Joseph Edward [*Probationer* 1899]; Litton, Poole, Dorset [*Master*: Mr. H. F. I. Barnes].

CLEVELAND: Charles Barry [*Probationer* 1899]; c/o W. M. Fawcett, Esq., 4, Trumpington Street, Cambridge [*Master*: Wm. Fawcett, M.A.*].

TRACY: Bernard David [*Probationer* 1896]; 13, Hungerford Road, Camden Road, N.W. [*Masters*: Messrs. Gordon * & Gunton *].

TAYLOR: Joseph Henry [*Probationer* 1899]; Sir Walter St. John's School, High Street, Battersea [*Master*: Mr. A. H. Ryan-Tenison *].

WILCOCK: John [*Probationer* 1899]; 9, Leeds Road, Bradford, Yorks [*Master*: Mr. William Wilcock].

MOSS: Charles Percy [*Probationer* 1897]; 58, Ashley Road, Crouch Hill, N. [*Master*: Mr. Henry Blackbourn *].

SLATER: Harold [*Probationer* 1900]; "Natosi," Fishwich View, Preston [*Masters*: Messrs. Briggs * & Wolstenholme *].

ROBINSON: Kenneth Duncan Stewart [*Probationer* 1901]; 7, Carteret Street, Queen Anne's Gate, Westminster, S.W. [*Master*: Mr. John Robinson].

HEATON: Charles Herbert [*Probationer* 1897]; 54, Earl Street, Wigan [*Masters*: Messrs. Heaton, Ralph, & Heaton].

CRABB: Henry Ralph [*Probationer* 1901]; 5, Richmond Road, St. David's, Exeter [Exeter School of Art].

COLTHURST: William Bunter [*Probationer* 1899]; Northfield House, Taunton [*Master*: Mr. F. W. Roberts].

CRISFORD: Augustus Robert [*Probationer* 1899]; "Escalonia," Eastbourne [*Master*: Mr. W. C. Field].

HORROCKS: Percy Aspden [*Probationer* 1900]; 11, Silverdale Road, Bolton [*Master*: Mr. Walter R. Haworth].

ELLIS: Edward Miller [*Probationer* 1899]; 18–19, Fenchurch Street, E.C. [*Master*: Mr. Edward B. Ellis *].

STRONG: Percy Ripley [*Probationer* 1900]; 28, Tunley Road, Balham, S.W. [*Masters*: Messrs. Middleton * & Carden *].

SYKES: Frank [*Probationer* 1900]; 16, Delhi Grove, Greenheys, Manchester [*Master*: Mr. Stephen Shaw *].

BROOKER: Frederick George [*Probationer* 1900]; "Ingleside," Elm Grove, Peckham Rye, S.E. [School of Architecture, Polytechnic, Regent Street].

CURTIS: William Thomas [*Probationer* 1898]; Harbledown, South Croxted Road, West Dulwich, S.E. [*Master*: Mr. Durward Brown].

RAINFORTH: Sydney Herbert [*Probationer* 1898]; Briar Gate, South Park, Lincoln [*Masters*: Messrs. W.* & W. G. Watkins *].

JARVIS: John Weston [*Probationer* 1900]; Essex Villa, Alcester Road, Moseley, Birmingham [*Master*: Mr. F. B. Osborn *].

STONE: Henry Walcott [*Probationer* 1900]; 9, The Avenue, Taunton [*Master*: Mr. F. W. Roberts].

BROOKE: John Tallents Wynyard [*Probationer* 1898]; The Hive, Bowdon, Cheshire [*Master*: Mr. John Brooke *].

COSWAY: Reginald Wentworth Alfred James [*Probationer* 1898]; 6, Engineers' Quarters, H. M. Prison, Wandsworth [School of Arts and Crafts].

HARDING: Edward [*Probationer* 1898]; 75, Arodene Road, Brixton Hill, S.W. [*Master*: Mr. C. Harrison Townsend *].

HOBSON: Florence Fulton [*Probationer* 1899]; 6, Hopefield Avenue, Belfast [*Master*: Mr. J. St. J. Phillips *].

KENNEDY: Edwin Riddell [*Probationer* 1899]; 3, Easton Terrace, Cliftonville, Belfast [*Masters*: Messrs. Graeme-Watt & Tulloch *].

MADDOCK: Sydney [*Probationer* 1899]; Main Street, Frodsham, Cheshire [*Masters*: Messrs. Wilson * & Talbot].

MORRIS: Leon [*Probationer* 1897]; 2, Rock Avenue, New Brompton, Kent [*Master*: Mr. C. J. Ferguson, F.S.A.*].

MURPHY: Bailey Scott [*Probationer* 1895]; c/o Messrs. Kinross & Tarbalton, 2, Abercromby Place, Edinburgh.

OSBORNE: William Robert [*Probationer* 1899]; Ivyleigh, The Drove, Swindon, Wilts [*Master*: Mr. H. Brakspear, F.S.A.*].

OWEN: Frank Ifor Moran [*Probationer* 1896]; 24, Oxford Road, Waterloo, Liverpool [*Master*: Mr. Thomas Bower].

PENLINGTON: Stanley Highfield [*Probationer* 1899]; 32, Fawcett Street, Sunderland [*Master*: Mr. H. T. D. Hedley].

SLADEN: Edward Randulph [*Probationer* 1898]; Bourne End, Bucks [*Masters*: Messrs. Truefitt * & Watson *].

SMITH: John Barlow [*Probationer* 1898]; 6, Spenser Road, Bedford [*Masters*: Messrs. C. E. Mallows * & Grocock].

THOMPSON: Charles Joseph [*Probationer* 1899]; 15, Earlsfield Road, Wandsworth, S.W. [*Masters*: Messrs. D. Cubitt, Nichol, Sons, & Chute].

The asterisk (*) denotes members of the Institute.

Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 15th to the 22nd ult. Sixty-three candidates were examined, and the following thirty-five passed, the others being relegated to their studies:—

ADSHEAD: Charles Thomas [*Probationer* 1894, *Student* 1897]; Ingleside, Hazel Grove, near Stockport.

BENSTED: Sidney Walter [*Probationer* 1893, *Student* 1897]; 11, Wakehurst Road, Wandsworth Common, S.W.

BESANT: Ernest George [*Probationer* 1896, *Student* 1899]; 4, Harvey Road, Cambridge.

BIGGS: Alfred Ernest [*Probationer* 1895, *Student* 1897]; Brooklyn, Felixstowe.

BOTTERILL: Austin Barugh [*Probationer* 1895, *Student* 1897]; Bracken Lodge, Oakdale Road, Streatham, S.W.

BROADHEAD: Charles Alfred [*Probationer* 1898, *Student* 1899]: 34, Albert Grove, Derby Road, Nottingham.

BUSBRIDGE: Harold [*Probationer* 1892, *Student* 1895]; 43, Heavitree Road, Plumstead, S.E.

COCKRILL: Ralph Scott [*Probationer* 1896, *Student* 1898]: 12, Euston Road, Great Yarmouth.

DEVLIN: William John [*Probationer* 1891, *Student* 1896]; 6, John Street, Adelphi, W.C.

DOBSON: Walter Ernest [*Probationer* 1894, *Student* 1900]; Gothic House, Chislett Road, West Hampstead.

ELLISON: Walter Watkin [*Probationer* 1895, *Student* 1898]; 34, Thanet Road, Erith, Kent.

EWING: James [*Probationer* 1897, *Student* 1898]; 8, Albert Street, Regent's Park, N.W.

GAUNT: Edward Lawrence [*Probationer* 1900, *Student* 1900]; Briarfield, Ilkley, Yorks.

GIBBINS: Arthur Everett [*Probationer* 1895, *Student* 1897]; 6, Milner Square, Islington, N.

HAWARD: Francis Robert Boyd [*Probationer* 1898, *Student* 1900]; 38, High Street, Marylebone, W.

HEMINGWAY: Ralph Eustace [*Probationer* 1898, *Student* 1900]: 1, Chaucer Street, Nottingham.

HUGHES: Augustus Edward [*Probationer* 1894, *Student* 1898]; 28, Mortimer Street, Regent Street, W.

HUSSELL: Allen Trevis [*Special Examination*]; 27, High Street, Ilfracombe.

LEES: Ernest William [*Probationer* 1892, *Student* 1896]; 35, Mecklenburgh Square, W.C.

MERILLE DE COLLEVILLE: Henry Louis Emile [*Probationer* 1895, *Student* 1897]; 24, Chatham Place, Brighton.

NORRIS: Edward Berks [*Probationer* 1897, *Student* 1899]; 301, Charles Road, Small Heath, Birmingham.

OAKES: Leonard Rycroft [*Probationer* 1896, *Student* 1899]; 120, Sinclair Road, West Kensington, W.

PONTON: Harold Frederic [*Probationer* 1894, *Student* 1897]; 149, Hammersmith Road, W.

REES: William Beddoe [*Probationer* 1898, *Student* 1900]; 37, St. Mary Street, Cardiff.

REILLY: Charles Herbert, M.A.Cantab. [*Special Examination*]; 28, Victoria Street, S.W.

RICHARDSON: Frank George [*Special Examination*]; 10, Fulbrook Road, Tufnell Park, N.

RODWAY: Ernest George [*Probationer* 1895, *Student* 1897]; 6, St. John's Terrace, Weston-super-Mare.

SHARP: George Lister Thornton [*Probationer* 1897, *Student* 1900]; Prospect House, Barnes, S.W.

SLATER: William [*Probationer* 1889, *Student* 1893]; 27, Southey Street, Nottingham.

SMITH: Francis Danby [*Probationer* 1894, *Student* 1898]; Parliament Mansions, Victoria Street, S.W.

SMITH: Thomas Marshall [*Probationer* 1896, *Student* 1897]; 39, Regina Road, Tollington Park, N.

TUCKER: Walter Stephen [*Probationer* 1895, *Student* 1896]; Coburg House, Exning, Newmarket.

VERSTAGE: Arthur Halcrow [*Probationer* 1894, *Student* 1897]; 34, Cantlowes Road, Camden Square, N.W.

WOORE: Joseph Alfred [*Probationer* 1895, *Student* 1897]; 57, Wilfred Street, Derby.

WRATTEN: Edmund Livingstone [*Probationer* 1897, *Student* 1899]; Hellingley, Dingwall Avenue, Croydon, Surrey.

The following shows the number of failures in each subject of the Final:—

I.	Design	23
II.	Mouldings &c.	18
III.	Materials	11
IV.	Sanitation	13
V.	Specifications	1
VI.	Construction: Foundations, Walls, &c.	11
VII.	Construction: Iron and Steel &c.	10

The Ashpitel Prize.—On the recommendation of the Board of Examiners the Council have decided to award this Prize to Mr. Charles Thomas Adshead [*Probationer* 1894, *Student* 1897], he being the candidate who has most highly distinguished himself in the Final Examinations held during the current year.

Special Prize.—On the recommendation of the Board of Examiners the Council have decided to award a Prize of Books of the value of £10 to Mr. F. Dare Clapham, in recognition of the merit displayed by him in his work at the Special Examination held last June. Mr. Clapham obtained the highest number of marks ever awarded at the Final and Special Examinations.

THE BUSINESS MEETING, 2ND DEC.

The New Model By-laws for Rural Districts.

At the Business Meeting of Monday, the 2nd inst., Mr. LACY W. RIDGE [*F.*], in accordance with notice, moved the following resolution:—

> That the Royal Institute of British Architects desires to thank the Local Government Board for the issue of "Model By-laws, IV. (Rural Districts)." While doing so the Royal Institute would urge on the Board the desirability of preparing a Model to enable Rural District Councils to regulate party-walls as distinct from external walls, a matter for which the Urban Model By-laws, to which the Board refer them, are not available. The Institute grounds this on the belief that the existence of properly constructed party-walls has proved an efficient barrier to the spread of fire, and that it is undesirable that such protection should be withdrawn in places where it has already existed.

Mr. RIDGE said that it was not wholly, perhaps, upon the action of the Institute, but it was, at any rate, in consonance with the action of the Institute that the Local Government Board had issued for use in rural districts a Model Code of By-laws of a much more simple character than that which had been adopted in some country places. He was glad to find that in two, at any rate, of the districts with which he was acquainted the new Model had been brought into use. With one exception the new Model furnished everything that was really necessary for local authorities to have in country places, and even in small market towns. The only actual building regulations were those which were supposed to affect health—viz. the concrete layer under a house, which in the country was probably of much more importance than in a town; a damp course in the walls, which was certainly not of less consequence in the country than in a town; and that the copings should be kept dry. There was, however, a very serious omission. Local authorities, if they adopted the Model, had no power to enforce the provision of a proper party-wall between adjoining tenements. Everyone would admit that the party-wall had been a far more efficient means of limiting the area and extent of fires than anything else. It would therefore be very regrettable if any country place which had previously been able to enforce the provision of a party-wall should now be without that power. He happened to be working at the town of Andover at the time when they introduced the by-laws, and it struck him that the by-laws were grossly absurd for a town which consisted of a central square and streets straggling out some considerable distance in different directions into the country. Yet they adopted these by-laws solid, just as they were presented to them by the Local Government Board. He now should hope that they would be glad to adopt the new Model, and get rid of a great many quite unnecessary restrictions on building. It happened that since this matter had been under discussion there had been a fire there, and one side of a street had been almost wholly consumed, from the fact that, the cottages being covered with thatch, the fire spread from house to house. If such a thing had happened after they had adopted less stringent by-laws, everybody would have blamed the authorities for adopting them. A town of that class, with streets fairly wide and party-walls between the houses, should be free from all serious risks of fire. He therefore asked the Institute to urge the Local Government Board to make special provision for the enactment of this by-law. As a matter of fact the party-wall enactment could not be taken out of the Urban Model, because in the latter party-walls and external walls were all mixed up together. Another point was that with a view to thickening the walls and making the houses dryer and more comfortable, it had been enacted, with regard to external walls in small houses of one or two stories, that there should be one, or it may be two, stories a brick and a half thick. That was good so far as external walls went, but it was not necessary in the least degree with regard to party-walls; one brick was quite sufficient thickness for the party-walls of cottages in ordinary cases. From that point of view, therefore, the scheme that the Local Government Board put forward in their Memorandum—viz. that rural districts which wanted to go further than their Model should take the by-laws out of the Urban Model—fell through. He might add that a most careful model of a party-wall by-law was presented to the Local Government Board by the Institute which it would be wise for them to accept.

Mr. H. D. Searles-Wood [*F.*] seconded the proposal, but said he should like to add a rider, viz. "That the Institute requests the Local Government Board to promote a Bill in Parliament to embody those sections of the London Building Act, 1894, which apply to ownership and the mode of dealing with party-walls, and make such sections apply to the United Kingdom." The moment seemed opportune for them to press upon the Local Government Board the urgent need that existed for codifying the treatment of party-walls all over the United Kingdom. If Mr. Ridge would allow him, he would move that his resolution be amended to that extent.

Mr. Ridge agreed that both subjects might well go up together from the Institute to the Board, but pointed out that the proposition which he had brought forward did not require legislation, whereas Mr. Searles-Wood's proposal did. He agreed with Mr. Searles-Wood that the matter required legislation very badly. Anyone who practised in London knew the enormous advantage we possessed from the existence of machinery by which the joint ownership in party-walls could be adjusted; and it was only right and proper to desire that the same advantage should be extended throughout the country.

The Chairman (Mr. John Slater) suggesting the advisability of Mr. Searles-Wood bringing forward his proposal as a separate motion after Mr. Ridge's resolution had been disposed of, Mr. Searles-Wood assented, and discussion on Mr. Ridge's motion proceeded.

Mr. Edwin T. Hall [*F.*] suggested that in sending the resolution to the Local Government Board it would be wise to draw their attention to the draft by-law which the Institute had already laid before them in relation to party-walls, as the same official might not have the two matters before him.

Mr. John Hebb [*F.*] agreed with Mr. Hall that it would be advisable to represent what, in the opinion of the Institute, was a party-wall. It occurred to him that they should make up their minds as to whether a parapet should be carried above the roof. When the London Building Bill was before Parliament there was considerable opposition with regard to carrying the party-wall beyond the roof, and an attempt was made to get rid of that provision. It was only after very strenuous opposition on the part of the County Council, in which they had the assistance of Captain Shaw, who was very much against abrogating that provision, that the carrying up of the parapet wall above the roof was insisted upon. He agreed that it was not desirable to put this before the Local Government Board in a very dogmatic manner, but allusion might be made to the manner in which the clause was drafted for the purposes of the Bill of 1894, and that would perhaps cover the whole question.

Mr. Ridge explained that the by-law drawn up by the Institute dealt with the question of the party-wall going through the roof. Where the houses were small, say only two stories high, it was felt that there was no necessity to carry the wall through the roof. But where the buildings were large the expense of carrying the party-wall through the roof became relatively trivial. If the roof of either house adjoining the party-wall was not covered with incombustible material, the wall was, in the Institute's draft by-law, to be carried through the roof. This by-law had been carefully thought out by the Committee of the Institute.

Mr. Samuel Knight [*F.*], referring to the town of Andover mentioned by Mr. Ridge, said that when he was there, not more than a month ago, he found that the old thatched houses had been nearly all rebuilt, or new houses built on their site, and that they had very properly adopted party-walls with parapets above the roofs. From his own experience he did not think that a party-wall between houses was efficacious unless it was carried above the roof at least a foot or 18 inches. About ten years ago in the North of London there was a fire in a row of eight or ten houses with shops, which unfortunately were not divided by parapets. The consequence was that the fire spread to five or six houses, instead of being confined to one, as would probably have been the case had there been parapets between. The houses had party-walls, but they did not extend above the roof; consequently the flames passed through from rafter to rafter, as the wall could not be carried close up to the roof. He was heartily in agreement with Mr. Ridge that this part of the enactment should be carried out. With respect to Mr. Searles-Wood's suggestion, he could not help feeling that the enactment of the London Building Act 1894 was too searching, involving too much expense to adjoining owners, to be adopted without very much modification in the rural districts. In London and in large towns the owners of property were able to contribute towards the expense of rebuilding the party-walls in sufficient thickness. But in rural districts, where property was small and the owners very poor, such an enactment as that in the London

Building Act with regard to party-walls would be found very onerous, and to involve considerable hardship in some cases. Take, for instance, a pair of cottages, one belonging to a man of very small means, where the party-structure was very insufficient, perhaps half wood: to apply the provisions of the Act to such an owner, and call upon him to contribute whether he had the money or not, would be a great hardship. Therefore he thought that the Institute ought not, without considerable reflection, to advise a regulation of that kind to be carried out throughout the country.

Mr. Gordon Smith [*F.*] said he should like to draw attention to the fact that even if party-walls were required in these instances there was nothing to prevent an adjoining house, perhaps only two or three feet off, from taking fire from the already burning house. Again, was the party-wall any use at all where the adjoining house was covered with thatch?

Mr. Ridge and Mr. Hall explained that both these points had been provided for in the draft by-law which had been submitted to the Board, and to which the attention of the Local Government Board might again be drawn.

Mr. Leonard Stokes [*F.*] asked if they were going to recommend the parapet.

Mr. Ridge replied that where the building was beyond a certain size, and where the roofs of the adjoining properties or either of them were not covered with incombustible material, there they did advise the parapet. Not otherwise.

The Chairman said that if the resolution were carried, the Secretary would send a covering note to the Local Government Board, referring them to the by-law on the matter which the Council had already submitted to the Board.

The resolution was thereupon put and carried unanimously.

Mr. Searles-Wood [*F.*], at the invitation of the Chairman, then brought forward his proposal as a separate motion. The suggestion, he said, had already met with the approval of the Institute, and he thought that it met Mr. Knight's point. What they particularly wanted to do was to deal with questions of ownership, and if that were settled it need not increase the expense at all. At the present time it was an absolute *impasse*. In the country the party-wall was the joint property of two individuals, and nothing could bring them together if they were not mutually inclined to agree. The wall might be in an absolutely ruinous condition, and yet neither party could touch it without the consent of the other. The resolution he wished to move was as follows:

"That this Institute requests the Local Government Board to promote a Bill in Parliament to embody those sections of the London Building Act 1894 which apply to ownership and the mode of dealing with party-walls, and make them apply to the United Kingdom."

Mr. Edwin T. Hall: Is that dealing with party-walls or interest in party-walls?

Mr. Searles-Wood: The interest in party-walls.

Mr. Hebb: That means outside London, I suppose?

Mr. Searles-Wood: Yes, districts not covered by the London Building Act.

Mr. George Elkington [*F.*] seconded the resolution. He said they ought clearly to understand that it was to apply everywhere outside London, because those difficulties, so far as his experience went, were more acute when they were dealing with the large provincial towns than in country places. Therefore, if they had to choose between the urban authorities and the rural authorities, he should say that this provision was one that would more specially apply to urban authorities; but he did not think that there was any reason, in the form in which Mr. Searles-Wood had moved it, why it should not apply to both urban authorities and rural authorities.

Mr. Ridge said that in the large boroughs of Hornsey, Croydon, Sutton, West Ham, and such places round London, where London practice prevailed, they had not the same facilities as they had in London for dealing with this joint ownership of the party-wall, which is in itself a very special thing. The owners were tenants in common. It was an odd thing that a request had never yet come up from the large provincial towns asking for such legislation. It had been remarkably successful in London, for that which was enacted in 1855 was practically re-enacted in 1894. It would not have been so re-enacted if it had not been successful.

Mr. Edwin T. Hall, with reference to Mr. Knight's objection, said that the proposal would not of course preclude any friendly settlement between the adjoining owners. It would have the effect of getting a settlement between poor owners without dispute at all. Its great advantage was that it provided a machinery in the event of an *impasse*. When it was remembered that the owners of party-walls were the owners of undivided moieties, it would be seen that any machinery that would prevent an *impasse* must be an advantage.

Mr. Knight said that he referred for the moment to really rural districts—to villages. He took it that the intention was that this should apply to all rural districts. But, of course, as to towns like Croydon or other towns in the country, the law which would apply to London would be equally applicable to them. He had had a very large experience of the country and rural districts, and he felt that the actual machinery of the London Building Act, if it was to be taken cut-and-dried out of the Act and put down as the operations which had to be gone through in country villages, would involve very unnecessary hardship and expense in cases where it would be very undesirable. Of course when an *impasse* occurred, as Mr. Searles-Wood observed, there was a way out of it. But, in his judgment, the sections of the London Building Act referred to would require very considerable modification from their present shape to make them available everywhere.

Mr. Searles-Wood, answering Mr. Knight's objection, pointed out that if one cottage was being built the by-laws as at present existing would come into force, and they would have to have a party-wall or an external wall. There would be no hardship at all.

Mr. William Woodward [*A.*] thought that Mr. Hall had distinctly answered the objection raised, because in London, if the adjoining owner and the building owner chose to make arrangements themselves without calling into operation the paraphernalia of the Building Act applicable to party-walls, they could, and did, do so.

The resolution, subject to such editing as might be necessary, was then put from the Chair and carried unanimously.

"Institute Assessors."

At the same meeting Mr. Herbert W. Wills [*A.*], in accordance with notice, brought forward the following motion:—

> "That in the interests of the Profession it would be advisable to have a list of 'Institute Assessors' drawn up, from whom the President would nominate, and that this list be from year to year revised."

Mr. Wills, having read his resolution, made a few remarks about competitions in general. A competition, he said, usually had its origin in a local body wanting to erect a certain building. The members of that local body probably in many cases had never come into contact with architects before, but they wanted to get the best result possible. They were perfectly willing to pay an architect his fees, but they must first see by inviting competitive designs what was the best design that they could get. In most cases he thought public bodies intended to carry out that intention as fairly as possible. There had been a great deal said against competitions on the ground that a large number of men wasted a great deal of time in competing; but those of them who were not overburdened with work were forced to waste time, as it was called, in some way or other, and the question was what way would in the end be most profitable to them. It might be that a man likes to write a book, in which case there is all the uncertainty whether his book will sell and bring him any profit at all. Another may prefer to compete: it gives him practice in designing buildings, and when he does get them to carry out he would probably be more competent for that practice. Because a hundred men took part in a competition it could not be said that every one of them had only one chance in a hundred. Among those men there were probably some who had had plenty of practice and were good designers, and they practically competed among themselves; the remainder were probably acquiring practice, which would be useful to them later on. He could see no harm in the institution of a competition; as long as it was conducted fairly it must result, in most cases, in good both for the public body and for the profession, if the settlement was by means of an able and impartial adjudication. One may put it that the man who competes hopes to make friends by means of his work, and that the man who does not compete hopes to get work by means of his friends. Probably many hoped to get work in both ways. He did not think at the present time that competitions failed—and he had heard of several instances of their failing—from the lack of good designs sent in. More often they failed on account of the Assessor failing to select one of the best designs sent in. Here he would suggest that competitions fell under two heads. There were competitions in which one unquestionably good design was sent in, which was clearly better than any other. But there were also competitions, of which he thought the recent competition for municipal buildings at Hereford was an instance, where half a dozen very good designs were sent in; and if any one of those designs had been chosen, he thought Hereford would have had good public buildings, and no one would have had a right to blame the Assessor, although it might be said that a certain other design had points in its favour which the winning design had not. But in that case, as in some others, one, not of the best designs, but of the poorest designs, had been chosen, and that sort of thing brought up the question, and the all-important question, of the Assessor. He did not think that any Assessor could be expected to be infallible. But every Assessor ought to be able to pick out one of the best designs sent in, and the failure of the Assessor to do so proved that he had not the qualities which went to make a really competent Assessor. In his very able Presidential Address the President had referred to the absence of criticism of any of the competitions conducted under the Institute's Assessors during his period of office. With regard to that he might say that many of them had reached an age, although they might be very young, at which they did not think it expedient to complain every time they had some just grounds for complaint. Again, most of them wished to help and not to hinder the purpose of the Institute, and they thought that by complaining very often they would be hindering the general good. With regard to several competitions which had been assessed by Assessors appointed by the President he might say that there had been a very great and somewhat general feeling of dissatisfaction as to the result. The profession, he thought, could not express too much gratitude for the services rendered it by the Presidents of the Institute. They had all been men of unquestionable ability, and it would be hard to find men who were willing to give up so much time to the public service; and he was perfectly certain that in everything touching the profession they had tried to do their very best for the interests of that profession, and in a very large measure they had succeeded. When, however, it came to a question such as the appointment of an Assessor there must be occasions on which the President, however well he knew members of his profession and their qualifications for a special post, could not know quite as much about a certain man as perhaps some member of the Council of the Institute knew; and he thought it would both relieve the President of a great deal of very heavy responsibility, and would to a great extent lessen the chance that an inefficient Assessor would be selected, if every year the President and the Council in consultation would draw up a list of Assessors from whom the President should appoint during his term of office. If such an arrangement were come to it would be advantageous to the profession and to all of them. He had no doubt that, with regard to any special appointment which the President was inclined to make, and to which any Member of the Council might demur, when the President had heard the reason which the Council had for objecting, he would concur, and there would probably be no discussion about it at all. He certainly thought that such a system would relieve the President of a great deal of very heavy responsibility and be to the general interest.

Mr. J. S. Gibson [*A.*] seconded the motion. In the first place, he said, it would tend very greatly to the confidence which members of the profession had in entering upon competitions if they knew that as a rule there was a possibility of their work being fairly judged, and not of any serious miscarriage of justice, as had happened in the past. Of course, no matter what suggestions might be made in this direction, it would be impossible to guard against every evil of this nature; but, as Mr. Wills had very justly pointed out, they ought to be able to guard against the appointment of an incompetent Assessor in whom the whole conduct and judgment of a very weighty competition were placed. He had, as a matter of fact, the arbitrament of perhaps several weeks' work of his fellow-practitioners in his hands, and they ought to guard against the appointment of a man who was unable to pick out one of the best designs. If they had a guarantee that even one of the best, not always the best, should be selected, it would be to the credit of the profession, and would prevent the erection of many buildings such as had been and were being erected in this country, which were of no credit to them as a profession. In the second place he did not think that it would in any way infringe upon the President's position. No member of the Institute, he was sure, would wish to detract from his prestige in any shape or form; but it was also a wise thing to look upon this growth of the competitive system in a common-sense fashion. It was not now what it had been. It had grown very largely of late years, and he was glad to say it was much better conducted than it had been in former times; and there were, he believed, hardly any public bodies of importance in this country but came to the Institute for help or guidance when they had important schemes on hand. It said a great deal for the Institute that it had made itself felt in that direction, and it would be wise if it took the opportunity of making itself felt still more in the future; and he believed that it could do so by recognising the fact that competitions were here amongst us, and it was no good bewailing the fact that too many men wasted their time and talent and money in sending in designs for all sorts of schemes. Competitions had to be properly conducted, and if they were properly conducted they would redound to the credit of the profession. He believed that such a change as had been suggested by Mr. Wills would help in a very great measure to give them, as a body, a better standing; it would help the public bodies with whom they had to deal, would give them better results, and would not in any way detract from the President of the Institute.

Mr. William Woodward [*A.*] asked if the procedure proposed by Mr. Wills was not that which was practically adopted at this moment in the Institute. He took it that the President did not himself solely, and without consultation with the Council, nominate anyone to be the Assessor. Therefore, if that were so—as he anticipated it was, at all events he should like to hear it contradicted if it was not—there would not be much advantage in adopting Mr. Wills's proposal. But if there was any meaning at all in the resolution it must mean that the President, or that the President and Council, had in some instances appointed an Assessor who was not competent, or had not been found competent, to deal with the competition in hand. If that be so, more grounds should have been urged as a reason for the new departure which Mr. Wills thought he was proposing, but which no doubt already existed. With regard to publishing a list, he did not see that much good would result from that, because no Provincial Committee would appoint an Assessor, even if he were on the list, unless they obtained some assurance that the men on that list were competent to deal, not only with competitions generally, but with the particular class of building wanted. He could not see that any good would result from the proposed list. What they should impress upon Assessors was the question of cost. If a man intentionally or unintentionally produced a design which he knew perfectly well could not be carried out for the stipulated sum, his work should be disqualified. If Assessors would only direct their attention first to the cost, and after that to the design, then justice would be done, and there would be no ground for fault-finding.

Mr. Edwin T. Hall [*F.*] said that as he understood Mr. Wills's suggestion it was not that there should be a list of Assessors elected by the general body, but that the Council of the Institute should make up a list, and from that list the President should nominate the Assessors.

Mr. Wills: That is so; perfectly right.

Mr. Edwin T. Hall: That is not as Mr. Woodward understands it, I think.

Mr. Woodward: No; I understood that the list was to be prepared, and that Committees would go to the Institute and select a man from that list.

Mr. Edwin T. Hall said that he must confess that Mr. Wills's arguments appeared to be sound ones, and a tribute was due to him for the non-personal way in which he had handled the subject. If such a list were prepared there could be no exception taken to it by any President of the Institute; and if it would in any way command more confidence in the profession generally to know that the opinions of thirty men sitting round the Council table had been taken as to the suitability of certain gentlemen for Assessors, nothing but good could result from it. Therefore he thought the corollary of this discussion should be that a motion should be made to refer this subject to the Council for their consideration. With reference to the point Mr. Woodward had touched upon, he himself felt frequently that there was too little care exercised by Assessors in respect of the essential conditions on which men entered into a competition. Mr. Woodward was quite right when he said that if a Town Hall was advertised to be built at a cost not to exceed £40,000, and somebody sent in a design costing £80,000, it should be right for the Assessor to rule that design out of the competition. Many of the complaints made had been on the ground that an Assessor had given place to a design which so far exceeded the limit of cost that it ought to be ruled out; for manifestly, given a building of a certain size, a man, if he had, say, £80,000 to play with, could frequently make a better or at least a more attractive building than a man who designed with only £40,000 to deal with.

Mr. Gordon Smith opposed the motion. He felt that no good could possibly result from tying the hands of the President or the Council to a limited number of Assessors. It was much better to leave the President, or the President and Council, absolutely unfettered in their selection. He could not help thinking that the President's decision or the President's selection had been accused of impropriety in some way.

Mr. Wills said that his observations were entirely general. His point was that, however much the President knew individually of the different members of the profession, of course the President plus the Council must know more than the President alone, and that the profession should have the advantage of that collective knowledge.

Mr. Gordon Smith: And the profession does have the advantage of that collective knowledge.

Mr. John Hebb said that the motion appeared to be a motion of want of confidence in the President. [Mr. Wills: No, no.] If it meant anything it meant that. It must be remembered that outside bodies came to the President and asked his advice as representing, as they thought, the head of the profession. It would be a very injurious step to limit the discretion of the President. The President could, if he chose, consult his Council. He could make any inquiries he thought fit, and if he had any doubt he would always be careful to make such inquiries before he acted. It would weaken greatly the position of the Council if a resolution of the kind which had been proposed were carried, and he hoped it would be negatived.

Mr. H. V. Lanchester [*A.*] said he should like to combat the idea which had been expressed that the motion in any way constituted a vote of censure on the President. It simply concerned the general system. The motion was brought forward entirely in the interests of the Institute. Why should they be hampered in their selection of a President by having to consider his capacity for being able to pick out Assessors for the various classes of buildings, the subject of competition? They wanted as President a man of broad views and of perhaps a spirited temperament, who would represent the profession in the best light before the world; that he should necessarily be combined with a man who knew all about details, and where to put his finger upon the best Assessor for any particular competition, seemed altogether an absurdity. The only reason for the suggestion was in order to make it a regular system that a number of men to act as Assessors should be selected by the Council, and that that list should be put at the President's disposal, so that he could see at a glance who was the most suitable Assessor for any particular competition, the list being from time to time revised. If such a system were adopted, it would free members from a certain anxiety in their selection of a President; they need not then concern themselves as to whether he was a good selector of Assessors.

Mr. C. H. Brodie [*A.*] said that he could not see that the motion contained the slightest suggestion of impropriety in the present President or any other President of the Institute. It would be an extremely good thing for the President if the resolution were carried, and for this reason, that people should not be invited or expected to apply to the President to appoint an Assessor, but that they should apply to the Institute as a corporate body, and not to a certain gentleman who occupied an honourable position in the Institute. Therefore he should support the resolution Mr. Wills had proposed.

Mr. Lacy W. Ridge hoped the resolution would not be passed. Say what they would, it was a reflection on the action of their Presidents. If things were considered perfectly satisfactory there would have been no object in bringing forward this resolution. Apart from that, however, what he wanted to know was how they were going to make the proposed list. The amount of quarrelling there would be over it appeared to him to be one of those things which it was almost impossible to realise, even by those who had served on the inner councils of the Institute, and he was perfectly certain that those who had not so served could not realise for a moment the jealousies which must arise if the resolution were attempted to be carried into effect. Again, there were new subjects coming up. If they had a list made by ballot, or made by the most skilful person they could think of to pick out skilled architects, it would probably omit the one man who knew something about the particular new subject that came up for competition; then the President or the Council would be debarred from selecting the one man who ought to be the Assessor in a case of that sort. Therefore the list would have the most fatal result. With regard to the action of the President, everybody must know that the President of the Institute was a constitutional monarch, and in the performance of his duties as President he consulted with the officers by whom he was surrounded. It must not be supposed for one moment that every action of the President was a personal action and that he went entirely upon his own personal knowledge of the men whom he came across in his own practice in selecting an Assessor. Surely the President acted as any honourable man would do in that position, and made use of the knowledge which had accumulated in the inner recesses of the Institute in appointing Assessors. He was sure that those gentlemen who believed they would improve the position of competitors by the resolution proposed were under a delusion from which, if they passed it, they would soon wake up to find they were wrong.

Mr. Aston Webb, A.R.A. [*F.*], who rose at the invitation of the Chairman, said that Mr. Wills called upon him some time ago and mentioned that there was a feeling amongst many of the younger men with regard to the appointment of Assessors, and that he intended to move in the matter. He (Mr. Webb) told him he thought it was a very proper and fit thing that it should be discussed; that the Institute existed for the purpose of discussing such matters. He remembered the time when there were no Assessors at all, and he remembered very well attending at Mr. Cole Adams's rooms nearly thirty years ago, when the young men of those days decided and solemnly bound themselves not to enter into any competition—a very serious thing for many of them to do—unless an Assessor was appointed. A memorial was then drawn up, and a very large number of signatures were attached to it, and Mr. Street presented it to the Institute, and asked them to forward the interests of the memorialists. That memorial led to an Assessor being appointed in almost all competitions, and in his view it had been of enormous advantage to young men who entered competitions, as he and others had had to do. Looking at the resolution now before them he could not think that it was intended in any way as a reflection on the President. But if it was the general feeling of the meeting that it might possibly be so looked upon, he should imagine that Mr. Wills would alter it to that extent. He was sure that if the Institute was to be of real use, and members were to feel any genuine interest in it, they must allow those who felt aggrieved to come and speak it out in their meeting-room, as Mr. Wills had done, moderately and reasonably, and giving his reasons for it. After hearing what had been said, there seemed to be a feeling that if this resolution were passed it would be a reflection on the President. He certainly should not join in anything that could possibly be considered in that light, and he did not think that anyone else, after the remarks which had been made, would wish to do so; and as he believed that the object of members who had brought the subject forward was to get the matter considered by the Council, might it not be a good thing for the Council themselves to consider whether any alteration could be made? He confessed that he did not think it was altogether an unreasonable thing. It was about thirty years ago since Assessors were first appointed, and since then a gradual way of appointing them had grown up. Personally he did not think it would be advisable to take the responsibility off the President. That was the very thing they must try and keep on the President, a sense of responsibility for his acts. With a Committee there was no responsibility; it could be shifted from one to the other. But on the other hand there might be some possible modification. The President himself, with the long experience he had had, might be able to help them over the difficulty. He ventured to suggest that if the Chairman were to give an undertaking that this matter of the appointment of Assessors generally should be brought up and considered by the Council, perhaps then Mr. Wills, on the strength of that assurance, might see his way to withdraw his resolution.

Mr. Wills said he wished strongly to negative the suggestion that in making this motion he had the least intention to reflect on the conduct of any President of the Institute, but his feeling was that the whole Council and the President together would know more about the qualifications of an Assessor than the President alone. If it was the fact that the President in all cases took the opinion of the Council he could not see that the resolution could in any way reflect upon the President, because it was simply putting his course of action into words. If, on the other hand, it was not the fact that in these matters he took the opinion of the whole Council, then, with every respect for the President and every disposition to believe in his fitness to choose Assessors, he could only say that it seemed to him that these were matters in which the utmost amount of information was necessary and advisable. If, however, it was the feeling of the meeting that this motion had better be withdrawn, and if at the same time the Chairman would assure them that this subject would be fully considered by the Council with a view to seeing whether any modifications could be made which would render the whole system of the appointment of Assessors more certain and more efficient than it was at present, he was perfectly willing to withdraw his motion.

The Chairman said he could not help thinking that Mr. Wills's arguments were not quite pertinent to his motion. The motion distinctly asked that a list of Assessors should be drawn up. His remarks, however, seemed to point out that it was desirable that the Council should, if possible, be associated with the President in any selection of Assessors. The two things did not seem to be quite the same. He should like to express his own appreciation of the extremely able way in which Mr. Wills had brought forward his motion, but he did not think that Mr. Wills and the members who supported him quite appreciated the difficulty which it would be to the Council, in complying with the letter of his resolution, to draw up a list of Assessors which was to be revised from year to year. It seemed to him to be almost an impossibility. At the present time the President, or the President with the advice of the Council, had the whole body of the Fellows of the Institute to choose from; and it must be remembered that in any particular case they might have applications from country places far away from London to appoint Assessors. He did not think it would be possible to draw up a complete list of Assessors who would be agreeable to all the members of the profession, young and old, unless they had the whole list of the Institute before them. It must be remembered that an Assessor, however and whenever appointed, must, on his first appointment, be an Assessor for the first time; it was not till the result of that Assessorship was known that they could say whether he was or was not a good man for the position, and it was perfectly impossible to say *à priori* that Mr. Smith, Mr. Jones, or anybody else, would or would not be a good

Assessor. That seemed to him to be the flaw in Mr. Gibson's argument. But with regard to the suggestion which had been made by Mr. Aston Webb, he, as Chairman of the meeting, was perfectly willing to undertake that the Council would carefully consider the whole question of Assessorships, as to whether the present system was a desirable one; and if they were willing to leave it at that, he was certain the Council would agree that the matter should be carefully considered, so that the discussion might not turn out to be useless.

Mr. Wills having intimated his wish to withdraw his motion, the Chairman said he would undertake that the whole question should come before the Council in the light of the remarks made that evening, and be thoroughly thrashed out.

The President's Opening Address: A Correction.

The President desires to state that he has been informed that the reference in his late Presidential Address to a certain competition was not quite correct. It appears that any difficulty which arose was in consequence of the delay in sending off the altered conditions to the competitors, for which the Assessor was in no way to blame.

Ripon Minster.

Mr. Francis Bond [*H.A.*] writes:—

In writing from memory in the Journal for 23rd November, I spoke of Augustinian Canons at Ripon. They were, of course, seculars. I should like to add that the strongest proof of the influence of the design of Ripon is to be seen at Tynemouth, which is somewhat later in date, but still in the twelfth century. If the drawing of Tynemouth (restored) in Sir Gilbert Scott's Lectures be consulted, it will be seen that the Tynemouth choir is reminiscent of the transitional work both of the nave and the choir at Ripon.

The late Charles John Innocent [*F.*].

The death is announced of Mr. C. J. Innocent, of Sheffield, in his sixty-third year. Mr. Innocent was elected Associate in 1865, and Fellow in 1889. He was a Past-President of the Sheffield Society of Architects, and was sometime Member of the Institute Council. He served his articles with Messrs. Wightman, Hadfield, and Goldie, of Sheffield, and remained with that firm as chief assistant until its dissolution in 1863, when he started practice on his own account. Mr. Innocent had a large general practice, was the architect of the Montgomery Hall, Sheffield, and of several school buildings for the Sheffield School Board.

REVIEWS.

ARCHITECTURE IN ENGLAND, 1500-1625.

Early Renaissance Architecture in England. A Historical and Descriptive Account of the Tudor, Elizabethan, and Jacobean Periods, 1500-1625, *for the Use of Students and others. By J. Alfred Gotch, F.S.A., Author of "Architecture of the Renaissance in England." With* 87 *collotype and other plates and* 230 *illustrations in the text.* 8o. *Lond.* 1901. *Price* £1 1s. [*B. T. Batsford,* 94 *High Holborn.*]

The "modes" of Paris change scarcely more frequently than do the architectural fashions of England, and the few years that have elapsed since the publication of Mr. Gotch's large work on the "Renaissance" have accordingly sufficed to effect a complete revolution in our architectural aims and aspirations. Hence the point of view of the practising architect in regard to this later and smaller book will naturally not be the same as it was towards the earlier. This on its appearance chimed in accurately with the mood of the moment, for picturesqueness was then essentially the dominant note. To-day, on the other hand, we are all for dignity, and mullioned windows and irregular outlines have come, more or less, to be regarded as *vieux jeu*. It is an interesting problem whether the architect is altogether the master of his fate in this respect, or merely the humble slave of destiny; but however this may be, and however strongly the stream of tendency may be bearing us, willing or unwilling, towards different ideals, we should, nevertheless, be grateful to Mr. Gotch for this fitting pendant to his earlier labours.

Indeed, I am not sure that the air of detachment with which we are now able to follow him in this brief review of a momentous period in the history of English architecture does not actually enhance the charm of the book. We have been living latterly so much in the atmosphere of the Later Renaissance that already it is refreshing to turn from its formality and stiffness, its academical correctness, and its artificiality, to the vigorous if ungrammatical work of our Elizabethan ancestors—to borrow an overworked simile, it is like stepping from the perfumed air of a ball-room out into the fresh breezes of a spring morning. Change being the one thing that can be predicted with certainty in the sphere of architecture, it may even be—who knows?—that this handbook of Mr. Gotch's, packed as it is with well selected and seductive illustrations, may have arrived at the psychological moment to rekindle an old love, and send us back once more for inspiration to vernacular sources. For, after all, the Later Renaissance is English only by adoption. Whatever its merits, it is in fact only a variant of a cosmopolitan style, and it no more constitutes a national architecture than the curve of hat brim and hang of trousers, which enable us so often to identify our fellow-countrymen abroad, make a national costume. On the other hand, at no time in our history was our architecture more typical of English sentiment and feeling than in the spacious days of Queen Elizabeth; never was it more directly the natural, unrestricted outcome of climate and custom; and never, Dutch influence notwithstanding, was it more completely differentiated from that of the Continent, unless it be, perhaps, in the last stage of the Gothic immediately preceding.

Had we been further removed from Europe, it is at least possible that the classic detail might have continued to reach us gradually, and so might have been, *pari passu*, assimilated without any radical upheaval of the old traditions, a really national style being thus ultimately developed to meet the new needs then arising. The historian, however, has instead to trace the stern fight between native and foreign influences up to the final victory of the latter, and this Mr. Gotch has done most admirably, lightening our way, moreover, with a series of sketches, views, and drawings which have collectively only one fault, viz., that they are, perhaps, apt to give to the neophyte an unduly high opinion of the general artistic merit of the buildings of the period. For this, of course, he should be rather thanked than blamed.

The evolution of the modern house plan from its mediæval prototype is most interestingly traced, and in this respect it may almost be said that the book supplies a missing link in the chain of architectural history, while the fact that all the plans have been prepared to one uniform scale is only significant of the care which has been bestowed upon its production throughout.

In discussing the house plan, the author justly lays stress upon the few sacrifices of common sense to architectural effect which we find in the buildings of the Elizabethans, and although he cannot at the same time resist contrasting in this respect the work of the Palladian school, he does not, either on this head or in regard to the debatable Thorpe drawings, descend from the realms of history to controversy. The superior pliancy of a mullioned treatment, as he points out, kept the Elizabethan builders above many temptations; and with the growing complexity of our modern requirements it may be questioned whether we are wise to throw away the freedom in planning such a style affords. That it is not incompatible with dignity, moreover, may be proved, if proof were needed, by many of the illustrations in this book, as well as in the author's larger volumes, while the more humble the building the more burdensome the yoke of the sash-window becomes. That Mr. Gotch's own sympathies are with the Early Renaissance is both natural and evident, that he would wish those of his readers to be with it too is probable enough, but he is nevertheless wisely content to set us thinking and to leave us to draw our own deductions. But if he is reticent in the text his illustrations are eloquent. Inigo Jones is a name to conjure with—particularly, let it be whispered, at the present moment. We may—we must—admire his genius, but in turning over the pages of this book it is impossible not to feel that with his importation of the fully developed Italian Renaissance was lost at once and for ever all hope of a truly national style. The change may, likely enough, have been inevitable, but viewed in the light of subsequent events, with the downward course of the succeeding centuries in our minds, there are few of us who will not yield the passing tribute of a sigh to the lost possibilities of English architecture; and few of us, also, let it be added, who will not mentally thank Mr. Gotch for this sympathetic and lucid exposition of the fascinating period he has made his own by such enthusiastic study.

A. C. Houston.

BELL'S "CATHEDRAL SERIES."

An Itinerary of the English Cathedrals for the Use of Travellers. Compiled by James G. Gilchrist; revised and edited, with an introduction on Cathedral Architecture, by the Rev. T. Perkins. With 40 *illustrations and a map. Price* 1s. 6*d.* [*Messrs. George Bell & Sons, York Street, Covent Garden.*]

This little book is an illustrated epitome of Messrs. Bell's well-known "Cathedral Series," and might be described as the breviary of good "Church-doers." Indeed, the preface tells us that, "as originally written by Dr. Gilchrist, it was intended especially for visitors from the United States."

The English tourist, though in all probability he will not do the whole round of thirty churches in as many days, will nevertheless do well to take this guide for his companion when he sets out to visit even three or four of our cathedrals.

Besides the photographic illustrations, the Rev. T. Perkins has given us a good architectural introduction with a typical cathedral plan, while a map and alphabetical table serve to make a complete and handy little work for quick reference.

To the various authors and to the publishers we must offer our congratulations and praise on the successful completion of this series, but we should by no means be forgetful of the fact that indirectly we owe the publication of one at least of the handbooks to those indefatigable and intelligent cousins of ours, "the visitors from the United States."

A. Maryon Watson.

MINUTES. III.

At the Third General Meeting (Business) of the Session 1901–1902, held Monday, 2nd December 1901, at 8 p.m., Mr. John Slater, B.A.Lond., *Vice-President*, in the Chair, with 21 Fellows (including 10 members of the Council) and 19 Associates (including 3 members of the Council), the Minutes of the Meeting held Monday, 18th November [p. 40], were taken as read, and signed as correct.

The decease was announced of Alfred Thomas Osmond, *Hon. Associate*, elected 1882.

The Hon. Secretary having announced the receipt of various donations of books to the Library, a vote of thanks to the donors was passed by acclamation.

The results were announced of the Preliminary, Intermediate, Final and Special Examinations held by the Institute in November.

The following candidates for membership in the various classes were elected by show of hands :—

As Fellows (8).

BASIL EDGAR BAILY (Nottingham).

JOHN BEGG [*A.* 1891, *Pugin Student* 1890, *Ashpitel Prizeman* 1891, *Inst. Medallist* (*Essays*) 1894] (Bombay).

JOHN CASH.

HENRY EDWARD FARMER (Walsall).

HENRI FAVARGER (Egypt).

JOHN HARRY WOODALL HICKTON [*A.* 1900] (Walsall).

FRANCIS EDWARD MASEY [*Soane Medallist* 1887] (Cape Town).

MATTHEW BURN PRICE (Pietermaritzburg, Natal).

As Associates (30).

THOMAS WILSON ALDWINCKLE [*Probationer* 1894, *Student* 1895, *Qualified* 1901].

HARRY ALLBERRY [*Qualified* 1895] (Dublin).

JOHN PERCIVAL BISHOP [*Probationer* 1896, *Student* 1897, *Qualified* 1901].

CHARLES HENRY EDWARD BRIDGEN [*Probationer* 1895, *Student* 1897, *Qualified* 1901].

HENRY CAYLEY, M.A. Cantab. [*Probationer* 1895, *Student* 1897, *Qualified* 1901].

FREDERICK DARE CLAPHAM [*Qualified, Special Examination* 1901].

WILLIAM BRUCE DAWSON [*Qualified, Special Examination* 1901].

HARRY DABORN DAY [*Probationer* 1892, *Student* 1894, *Qualified* 1901] (Godalming).

WILLIAM MACKERETH DEAN [*Probationer* 1896, *Student* 1899, *Qualified* 1901].

LIONEL GORDON DETMAR [*Probationer* 1896, *Student* 1899, *Qualified* 1901].

TOM NORMAN DINWIDDY [*Probationer* 1893, *Student* 1895, *Qualified* 1901].

LEONARD WILLIAM ENSOR [*Probationer* 1898, *Student* 1900, *Qualified* 1901] (Sheffield).

KENSINGTON GAMMELL [*Probationer* 1895, *Student* 1897, *Qualified* 1901].

LEOLIN CHARLES GREGORY [*Probationer* 1895, *Student* 1897, *Qualified* 1901].

CHARLES LLEWELLYN HALL [*Probationer* 1895, *Student* 1896, *Qualified* 1901] (Blackburn).

JOHN PERCY HALL [*Probationer* 1897, *Student* 1899. *Qualified* 1901].

SIDNEY JOSEPH HALSE [*Probationer* 1896, *Student* 1899, *Qualified* 1901] (Canterbury).

GEORGE ROBINSON CUTHBERT HARDING [*Probationer* 1897, *Student* 1897, *Qualified* 1901] (Lincoln).

ABRAHAM HOLSTEAD [*Probationer* 1897, *Student* 1898, *Qualified* 1901] (Alnwick).

EDWARD VINCENT KING [*Probationer* 1893, *Student* 1895, *Qualified* 1901] (South Shields).

ALEXANDER GEORGE ROBERTSON MACKENZIE [*Probationer* 1894, *Student* 1898, *Qualified* 1901].

ERNEST GODFREY PAGE [*Qualified, Special Examination* 1901].

ARTHUR PICKUP [*Probationer* 1895, *Student* 1897, *Qualified* 1901] (Blackpool).

LOUIS EDWARD PRYKE [*Probationer* 1894, *Student* 1897, *Qualified* 1901].

EDGAR JOHN PULLAR [*Probationer* 1894, *Student* 1898, *Qualified* 1901].

ARTHUR HENRY ROE [*Probationer* 1893, *Student* 1897, *Qualified* 1901].

REGINALD BERTIE ROWELL [*Probationer* 1893, *Student* 1896, *Qualified* 1901] (Colchester).

CLEMENT STRETTON [*Probationer* 1898, *Student* 1900, *Qualified* 1901] (Leicester).

JOHN GEORGE WALKER [*Probationer* 1894, *Student* 1896, *Qualified* 1901].

RAYMOND CYRIL WRINCH [*Probationer* 1896, *Student* 1898, *Qualified* 1901] (Ipswich).

As. Hon. Corresponding Members (2).

SEÑOR DON ENRIQUE MARIÁ REPULLES Y VARGAS, President of the Central Society of Spanish Architects (Madrid).

SEÑOR DON M. ALBERTO DE PALACIO (Madrid).

The Secretary announced that, by a resolution of the Council under By-law 20, the following gentlemen had ceased to be members of the Royal Institute—viz. Michael Francis Cavanagh, Thomas Charles Agutter, William Hodgen, James Crombie, William Nicholson Cumming, Edward Carrington Hanson, David William Kennedy, John Thompson, and William Henry Wood.

Mr. Lacy W. Ridge [*F.*] having moved, and Mr. H. D. Searles-Wood [*F.*] seconded, it was, after discussion,

> Resolved, that the Royal Institute of British Architects desires to thank the Local Government Board for the issue of "Model By-laws, IV. (Rural Districts)." While doing so the Royal Institute would urge on the Board the desirability of preparing a model to enable Rural District Councils to regulate party-walls as distinct from external walls, a matter for which the Urban Model-By-laws, to which the Board refer them, are not available. The Institute grounds this on the belief that the existence of properly constructed party-walls has proved an efficient barrier to the spread of fire, and that it is undesirable that such protection should be withdrawn in places where it has already existed.

Mr. H. D. Searles-Wood [*F.*] having moved, and Mr. George Elkington [*F.*] seconded, it was, after discussion,

> Resolved, that the Royal Institute of British Architects urges upon the Local Government Board the desirability of promoting a Bill in Parliament to embody those sections of the London Building Act 1894 which apply to ownership and the mode of dealing with party-walls, and to make such sections apply to the whole of the United Kingdom.

Mr. Herbert W. Wills [*A.*], seconded by Mr. J. S. Gibson [*A.*], having brought forward a motion, "That in the interests of the profession it would be advisable to have a list of 'Institute Assessors' drawn up, from whom the President would nominate, and that this list be from year to year revised," the proposal was discussed, and eventually withdrawn by Mr. Wills, the Chairman undertaking to bring the matter before the Council with a view to the whole principle of the appointment of assessors in competitions receiving thorough consideration by them.

The proceedings then closed, and the Meeting separated at 9.40 p.m.

ST. PETER'S, ROME.

THE SIXTH ROYAL ACADEMY LECTURE, SESSION 1901.*

By Professor Aitchison, R.A., *Past President, Royal Gold Medallist.*

AFTER having heard so much of the size and grandeur of the outside of St. Peter's I was very much disappointed when I first saw it during the Holy Week of 1853. I attribute much of its want of effect to the Cavaliere Bernino, who—with the chance of making an enclosure like the temenos of a Greek temple, which was to confine the views of the temple to certain favourable points, and to make the temenos low and comparatively insignificant, to contrast with and enhance the size and grandeur of the temple, as Michelangelo and Bramante proposed to do—seems to have thought that his duty was to make as much of his own work as possible, regardless of its dwarfing St. Peter's.

Bernino's colonnades that surround the square in front of St. Peter's are more than a third of the height of the whole building up to the parapet of the attic, and the ends abut on its front; so what with the enormous area they enclose and the immense height of the colonnades themselves, St. Peter's looks in size like an ordinary church, and though the colonnade is probably a correct example of Doric without triglyphs, it has no charm. As to the front of St. Peter's itself, unless there is a man standing at the base of one of the columns, you cannot imagine that the bases are nearly 6 feet 7 inches high from the pavement at the top of the steps to the top of the fillets of the apophyges. The columns are Corinthian, and are 8 feet 9 inches at their lower diameter, and rather more than ten diameters high. The front itself is a very poor production. It consists of a tetrastyle Corinthian portico with a wider space between the middle columns, an entablature, and a pediment. Beyond this on each side are two additional columns; the bays beyond these are flanked by a Corinthian pilaster of considerable projection, with an archway at both ends bounded by a shallow pilaster. The front has the look of a deserted temple of rather large proportions, which has had the spaces between the columns built up to make a palace or dwelling-house; and the upper balconied windows beneath the entablature add considerably to the effect of its being a dwelling-house with an attic above the entablature for the servants. A balcony or balconies were wanted, it is true, for the Pope's benediction, but these might have been made characteristic features. The wall behind the columns and pilasters has in the portico a middle square-headed opening or doorway with Ionic columns supporting an

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* Lectures III. and IV. appeared in the Journal, Vol. VIII., and Lecture V. in the last number.

entablature, with round-headed doors between the last two columns of the portico: beyond these are two square-headed openings with Ionic columns and empty niches with dressings and segmental pediment, and the last bay at each end has an archway whose keystone runs up to the soffit of the balcony. The upper windows have alternately triangular and segmental pediments, and there are panels between the soffit of the balconies and the door heads below; some of these panels are open and some sculptured. The attic has pilasters over the columns below, with Ionic capitals and cherubs' heads beneath them; the windows are small square windows with kneed architraves. The two beyond the pediment have triangular pediments with shells, and the openings below the clocks are square-headed, and have the bells and framing. The clock cases have emblems of the Papacy to crown them, and sprawling figures at the sides. A balustrade crowns the attic, and on the pedestals are thirteen figures, said to be Jesus Christ and the twelve Apostles, 18 feet 6 inches high.

From the plan of St. Peter's being changed from a Greek to a Latin cross the drum is lost, and the dome very much shortened from a near front view, so that the whole is made a much less imposing feature by the perspective of the lengthened nave. Looking at the front of St. Peter's, Bernino's grand staircase is on the right, and leads up to the Vatican. On the left there is a large court with a high wall to the left, which enables you to get a fair sight of the flank of St. Peter's [p. 81]; and this flank, which has no columns but only pilasters, has in parts considerable dignity, for in this restricted space the immense size of St. Peter's is conspicuous. The whole might be looked on as a rather imposing palace, but by no means of the highest class of architecture, for where there are staircase windows in the narrow intercolumniations, this feature has been repeated by superimposed empty niches. The attic windows on the flank have the pediments left out, with the scollop shell in the middle of the cymatium, and deep square fluted trusses with guttæ to support the cymatium; the pilasters have plain moulded caps, and in the narrow intercolumniation of the attic are niches with dressings crowned with the Pope's tiara; the niche contains a candelabrum and the head is fluted. The putting pediments over the windows below immediately under a projecting entablature is not a very rational proceeding, and when the tops of them are jammed up against the soffit of the entablature it does not make a happy composition, nor are the proportions charming nor the details exquisite. The architectural features do not tell of the lighting of a vast hall like the Gothic west windows do. The Renaissance architects had very little invention, and did not know what to do with an enormous window; when they wanted a great window they had nothing but the old Roman plan of a semicircular one with two mullions like those at Diocletian's baths, which is as ugly a feature as I know. I think we are learning how to make vast windows without falling back on Gothic geometry. The refined taste of the Renaissance architects made them shudder at Gothic—more than we do now at its imitation. Nor do the upper side windows explain the lighting of the aisles, although the windows are vast (some of them on the first floor are 19 feet 8 inches high and about 9 feet 10 inches wide). The architects of St. Peter's met the difficulty of lighting the aisles by top-lighting.

On the ground floor of both front and flank there are no windows, but niches having dressings, with pediments alternately segmental and triangular, with deep square trusses to the architraves, these trusses being utterly disproportionate to the weight they have to carry, and the ordinary ogee trusses beneath the thin sills, and the niches are empty. An empty niche is perhaps the poorest expedient an architect has ever invented. The upper windows have balconies which are flanked with pedestals, on which stand Roman Ionic columns with segmental and triangular pediments alternating; and the windows themselves are alternately square and circular headed, and there is a shallow panel between the bottom of the balcony and the top of the pediment beneath.

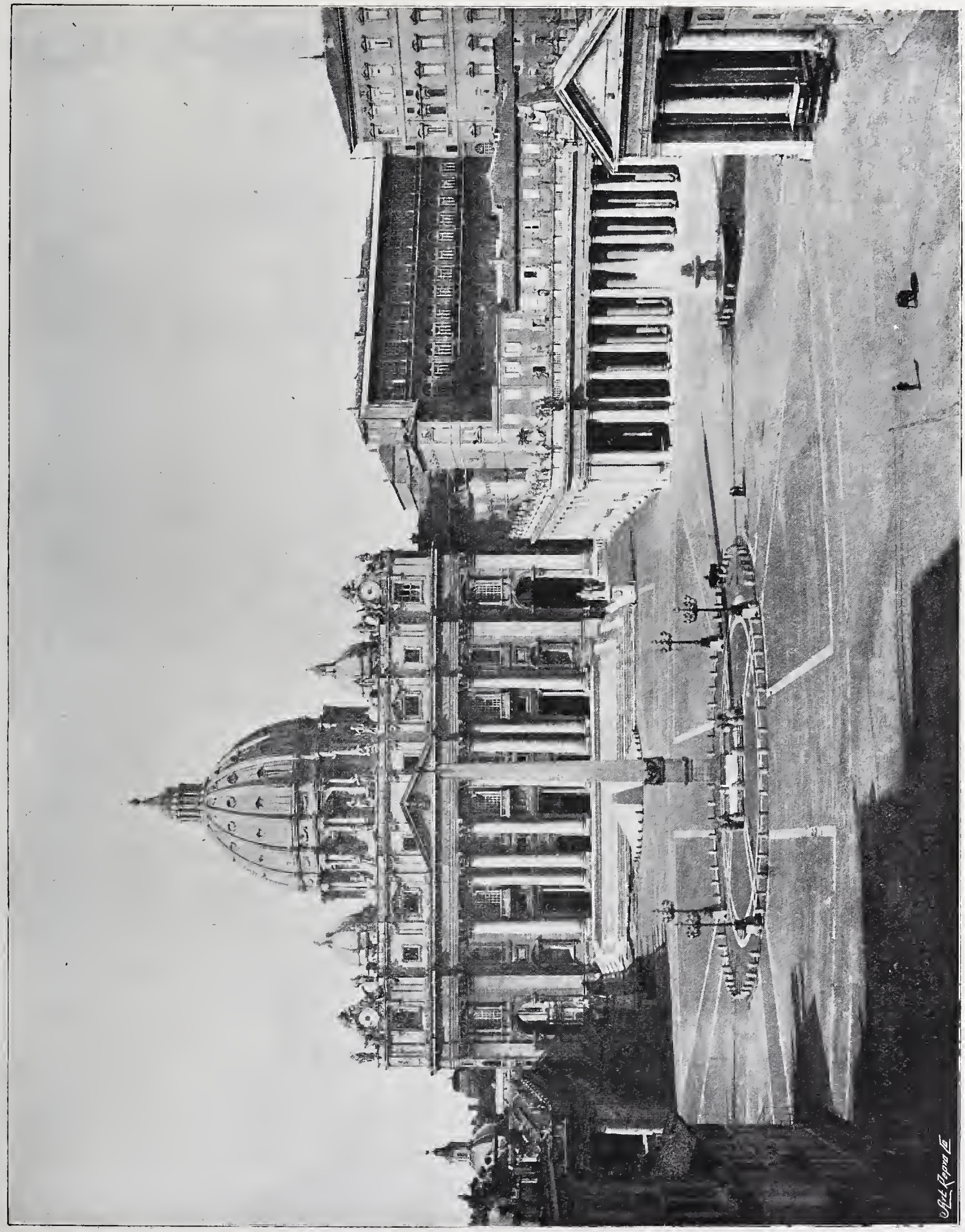


FIG. 1.—ST. PETER'S, THE COLONNADE, AND THE VATICAN, ROME.

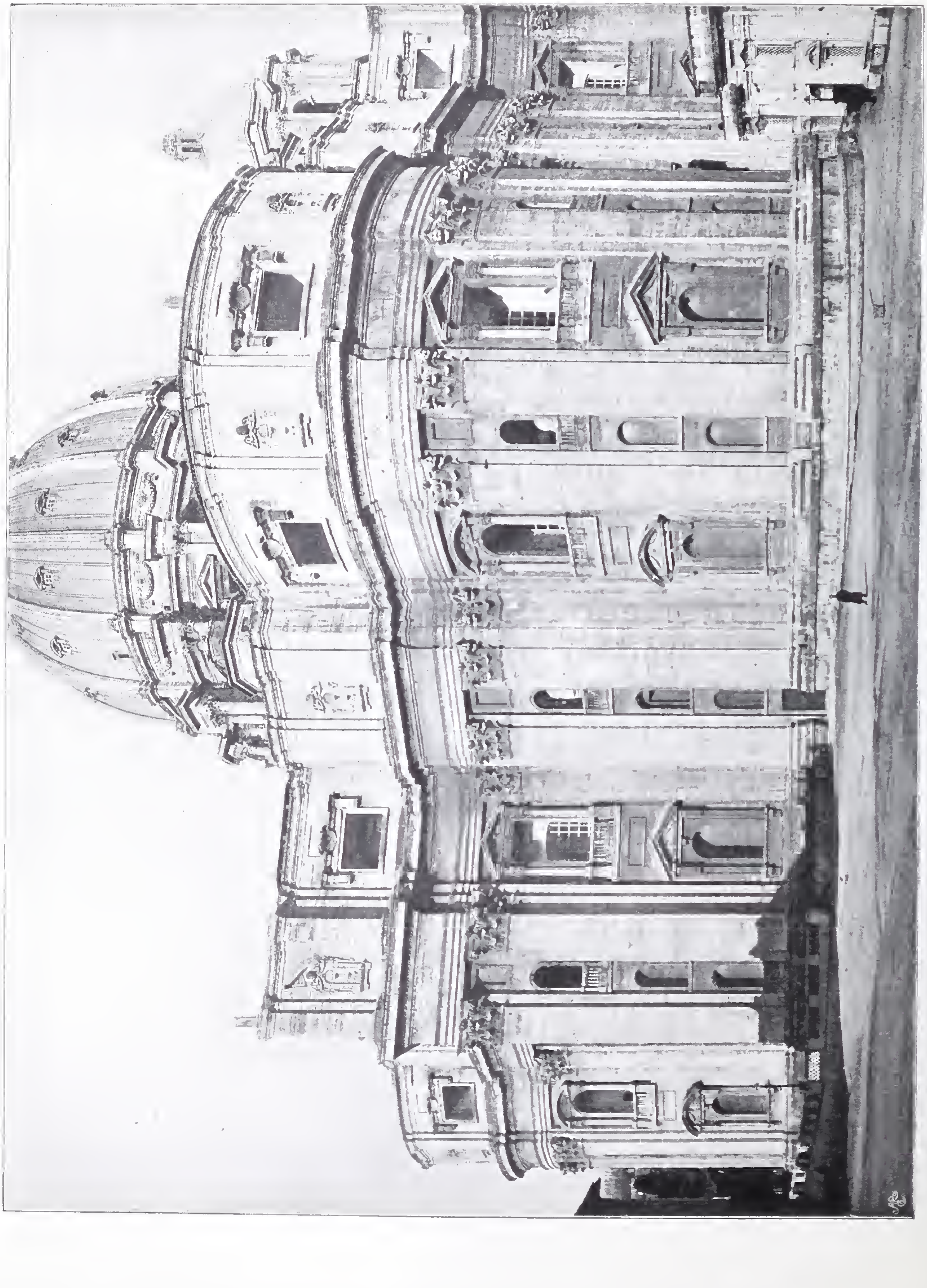


FIG. 2.—APSE OF TRANSEPT, ST. PETER'S, ROME.

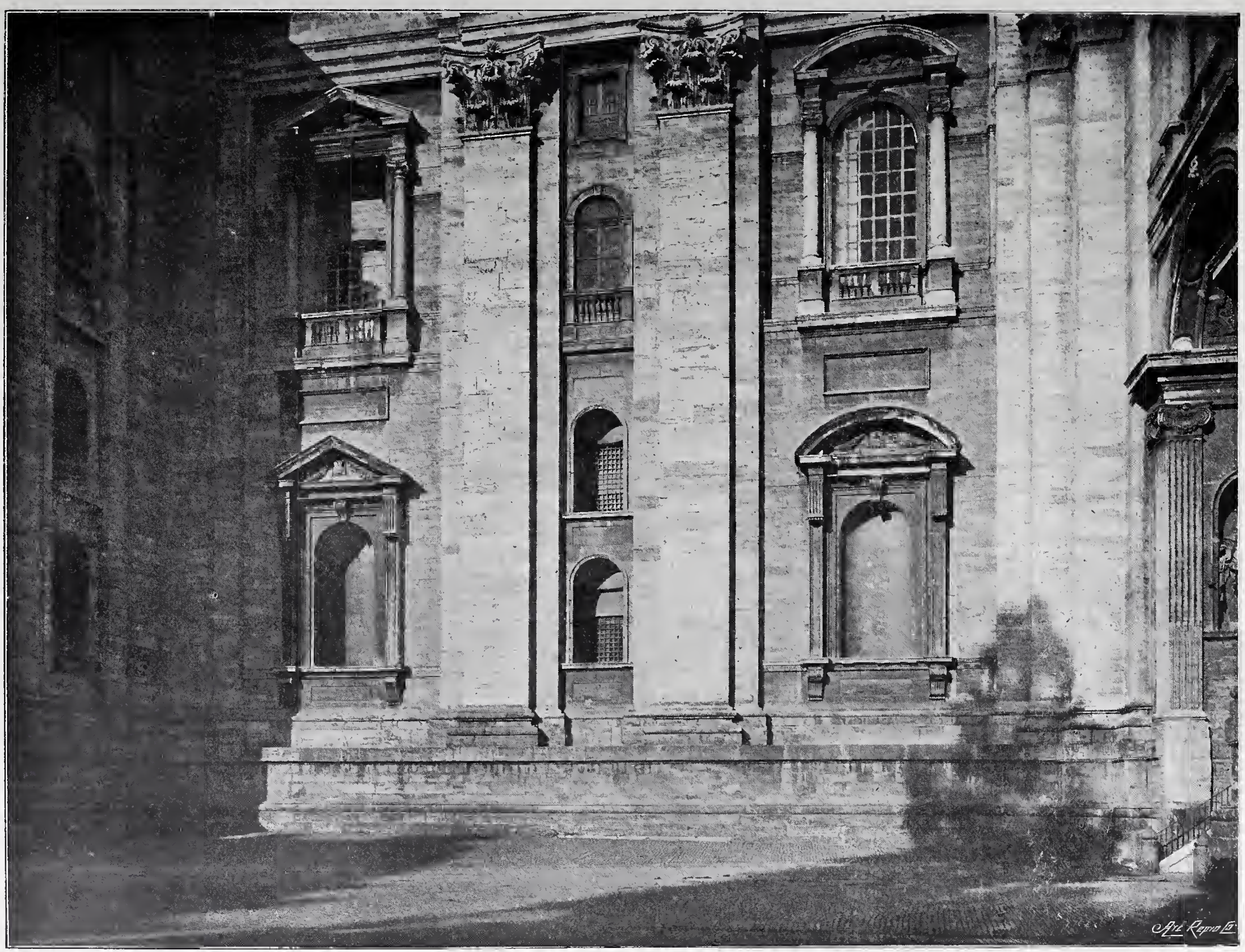


FIG. 3.—FLANK OF ST. PETER'S, ROME.

Since Byzantine times domes have become the sign of a cathedral or of an important church ; but the misfortune of using a dome that makes an effective crowning feature to the edifice is that you have to sacrifice the inside, for from the entrance the dome shows itself merely as a hole in the vault until you are nearly under it. The great advantage of the Pantheon is that you are in a circular building which the dome covers, lit only from the top, so that you must needs look up. At Santa Sophia at Constantinople, though you see the central dome from the entrance doorway, the dome makes no prominent feature outside. Externally the Pantheon is almost in the same plight as Santa Sophia, as the steps at the foot of the cupola, to abut its thrust, make it look depressed.

On entering the Basilica you find that everything has been carried out on so gigantic a scale that what is really immense looks no larger than the parts of an ordinary church. The cherubs that support the holy water stoups are, as far as my recollection carries me, 9 feet 6 inches long from the ends of the fingers that support the stoup to the toes, and the Corinthian pilasters are about 8 feet 9½ inches wide.

Antonio da San Gallo the Younger is said to have made the level of the paving about 10 feet higher than was originally intended. I suppose he was doubtful of the stability of some parts. We see in one of Martin Heemskirk's sketches the base of some of the nave pilasters with a capping and part of the dado beneath them. The present pilasters stand on the pavement.

There is, of course, on a fine day a bright part under the dome, but you see nothing of the dome itself from the entrance, but only the huge brazen baldacchino with the high altar beneath it, and at the end the Pope's chair in the apse. As the baldacchino makes a dark central mass, it has, with the vista beyond it, a fine effect.

The nave between the pilasters at St. Peter's is about 83 feet wide and only about 145 feet high to the soffit of the vault, or less than double the width, while the aisles are but 34 feet wide, and the height up to the eyes of the oval domes is 127 feet, or nearly four times the width, and consequently the aisles look loftier than the nave, but the effect of the aisles is spoiled by the vista being cut off by the piers of the dome. I think the best view of the dome is from the transept, for there you look over Bernino's baldacchino, which is but a large piece of bad upholstery executed in bronze, for which the brazen coverings of the girders and the bronze and silver vault of the portico of the Pantheon were sacrificed. The whole of the interior decoration of St. Peter's is commonplace and inclined to be tawdry, although made of rare and costly marbles and fine stones ; two or three pieces of inlay before you come to the Gregorian Chapel are rather pleasant to look at. White, when used in full coloured decoration, should be used like jewels, sparingly ; but here the use of it is lavish, and gives a commonplace air to the decoration. As far as proportion goes, I think the narthex is the most successful piece of the whole structure. When I last visited St. Peter's, in 1898, I thought the only piece of art in it was the bronze monument to Innocent VIII. by Pollaiuolo [p. 85].

Innocent VIII. began his reign in 1484 and died in 1492, so this monument had some traces of the devotional manner of the Gothic times, only better drawn and more graceful by the advent of the Renaissance. The sepulchral monuments of the fifteenth century with which the great Italian churches and cathedrals are dotted have that peculiar felicity and grace which seem to have evaporated by the middle of the next century. Some of the tombs by Donatello and Jacopo della Quercia, and all I have seen by the two Rossellini, Desiderio da Settignano, Matteo Civitale, and Mino da Fiesole, are some of the sweetest things in the world. One of these monuments, to Ugo Marquis of Tuscany, in the Abbey at Florence, has two naked little boys who are holding up the shields of the dead man ; the boys have

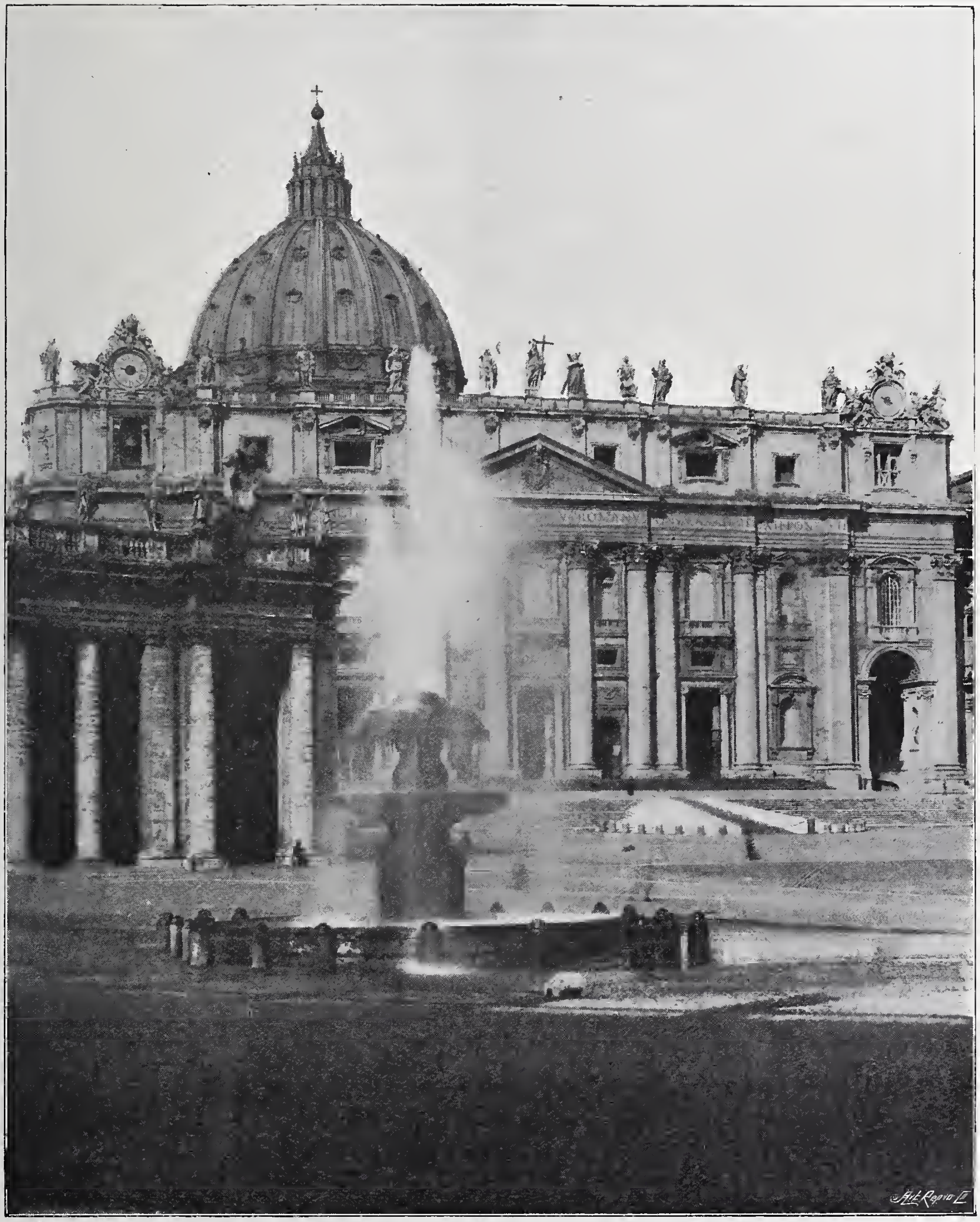


FIG. 4.

that delightful look of unconscious purity and grace that is so marked a characteristic of healthy, unspoiled children, while the great slabs of porphyry above the recumbent figure give the appropriate solemnity of colour to the sepulchral monument.

Pollaiuolo (Il Cronaca) was born in 1457 and died in 1508. These men of the fifteenth century who felt the full force of the new intellectual freedom, and had the passionate enthusiasm for it and for the benefits that would ensue, very rapidly died out and gave place to men whose whole idea was to give a comparatively dull imitation of Roman work; and by the end of the next century a moulding or a proportion that was different from the antique was looked on as a much greater fault than a want of originality or want of charm. These men of the fifteenth century always put me in mind of one of the old songs which says:—

I've been roaming! I've been roaming!
Where the honeysuckle creeps,
And like a bee I'm coming
With its kisses on my lips.

The charm of their work is like the delicious scent of hay or of wild flowers, but this charm had evaporated from the works of those who were born in the sixteenth century. Even Palladio, who was born in 1518, and who got some of the grand style of the ancients, mostly wanted that native charm which is so conspicuous in the best masters of the fifteenth century.

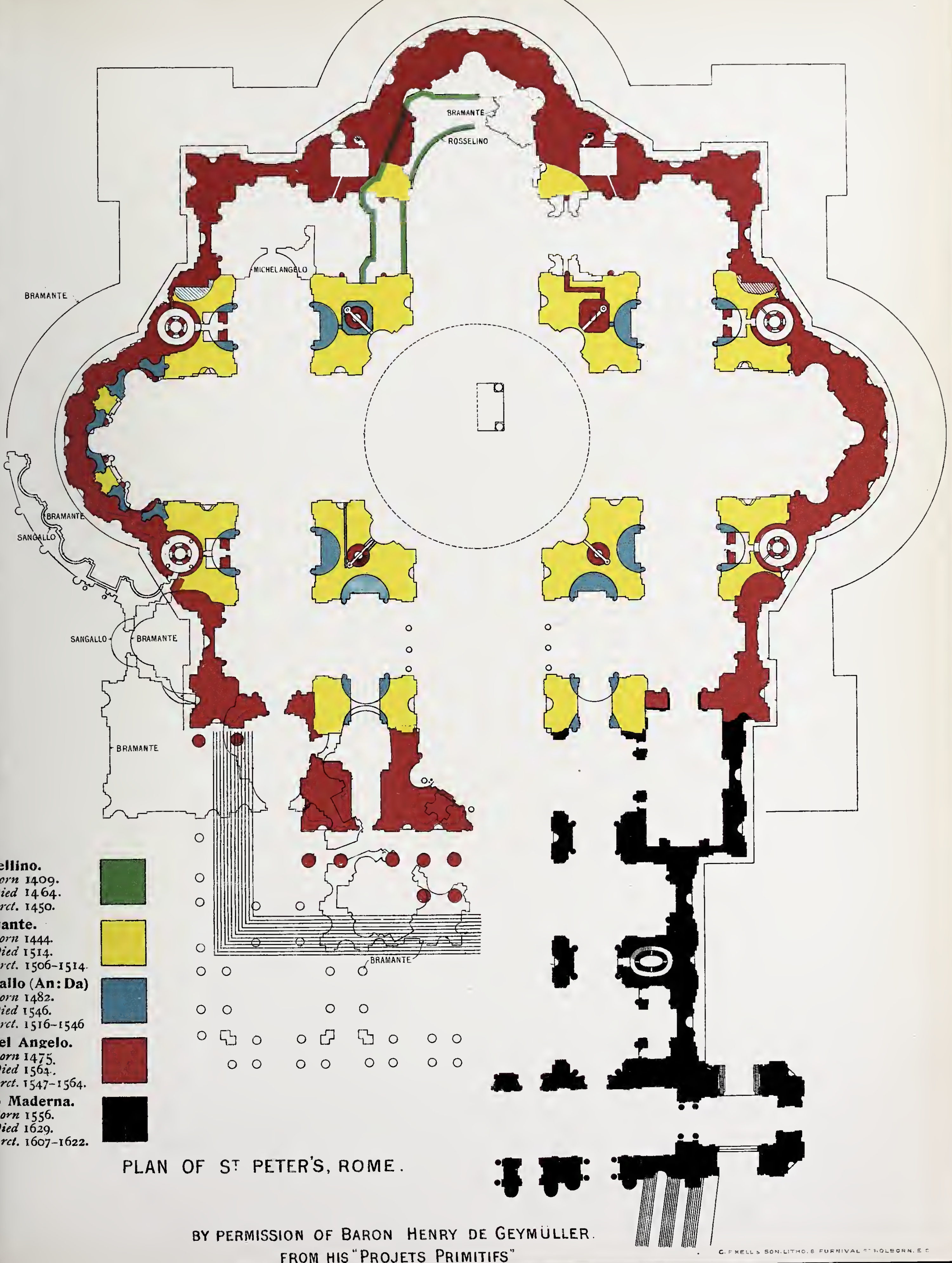
St. Peter's is full of precious marbles, fine stones, silver and bronze, although the pilasters of the nave are only of painted plaster, but almost all the figure subjects there lack the charm of the earlier sculpture and statuary. There are some excellent statues and bas-reliefs in St. Peter's, but there is an entire absence of any religious or devotional expression about them; even about the children there is a want of that spontaneous and unconscious grace which so characterises the work of the early sculptors. There are a few handsome women as accessories to some of the tombs, but they all have a worldly look, and many of the later ones even have that half-flabby look which is the natural consequence of neglect of health.

The whole impression that the cathedral leaves on us is opposed to the idea of its being a place of worship, and gives us the idea of a mausoleum to persons of rank and power. The splendid panegyric Lord Byron wrote on St. Peter's in his *Childe Harold* has done much to create an admiration for it; but of that I am not going to speak. But I will say something about his defence of its apparent want of size when it was really so colossal:

Enter: its grandeur overwhelms thee not;
And why? it is not lessen'd; but thy mind,
Expanded by the genius of the spot,
Has grown colossal.

This is a beautiful poetic reason, but it is not the real one; it was purely want of architectural knowledge and skill. To gauge the size of anything you want a scale, and Nature has supplied that scale by man; and if you supply a colossal scale to measure by, as is done at St. Peter's by the gigantic cherubim, you falsify the scale, and thus waste thousands of tons of stone to produce an inadequate effect. Colossal size is undoubtedly both striking and impressive if you arrange it so as to be appreciated. The mediæval architects were quite aware of this, and took the ordinary proportions of man as their scale; the plinths of piers were mostly only high enough for seats, and the spaces between the mullions were only the width of a man's shoulders, while the heights of naves were made apparent by their narrowness.

The very piers of the dome at St. Peter's tend to dwarf the dome by their colossal size. They may be described as two piers at right angles to one another, whose length is 61 feet



ssellino. *Born* 1409. *Died* 1464. *Arct.* 1450.	🟩
mante. *Born* 1444. *Died* 1514. *Arct.* 1506–1514.	🟨
gallo (An: Da) *Born* 1482. *Died* 1546. *Arct.* 1516–1546	🟦
hel Angelo. *Born* 1475. *Died* 1564. *Arct.* 1547–1564.	🟥
lo Maderna. *Born* 1556. *Died* 1629. *Arct.* 1607–1622.	⬛

PLAN OF ST PETER'S, ROME.

BY PERMISSION OF BARON HENRY DE GEYMÜLLER.
FROM HIS "PROJETS PRIMITIFS"

C. F. KELL & SON. LITHO. 8 FURNIVAL ST HOLBORN. E.C.

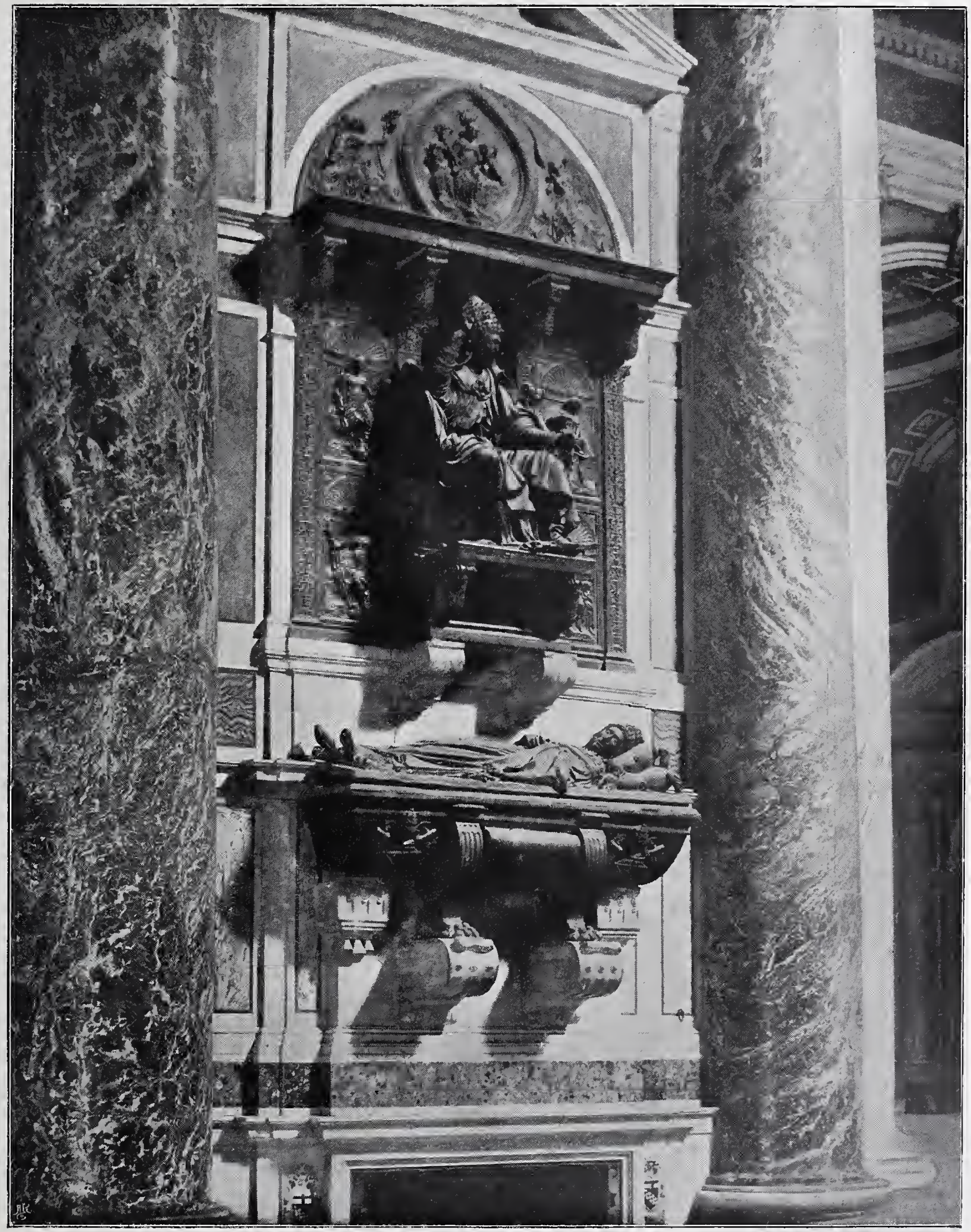
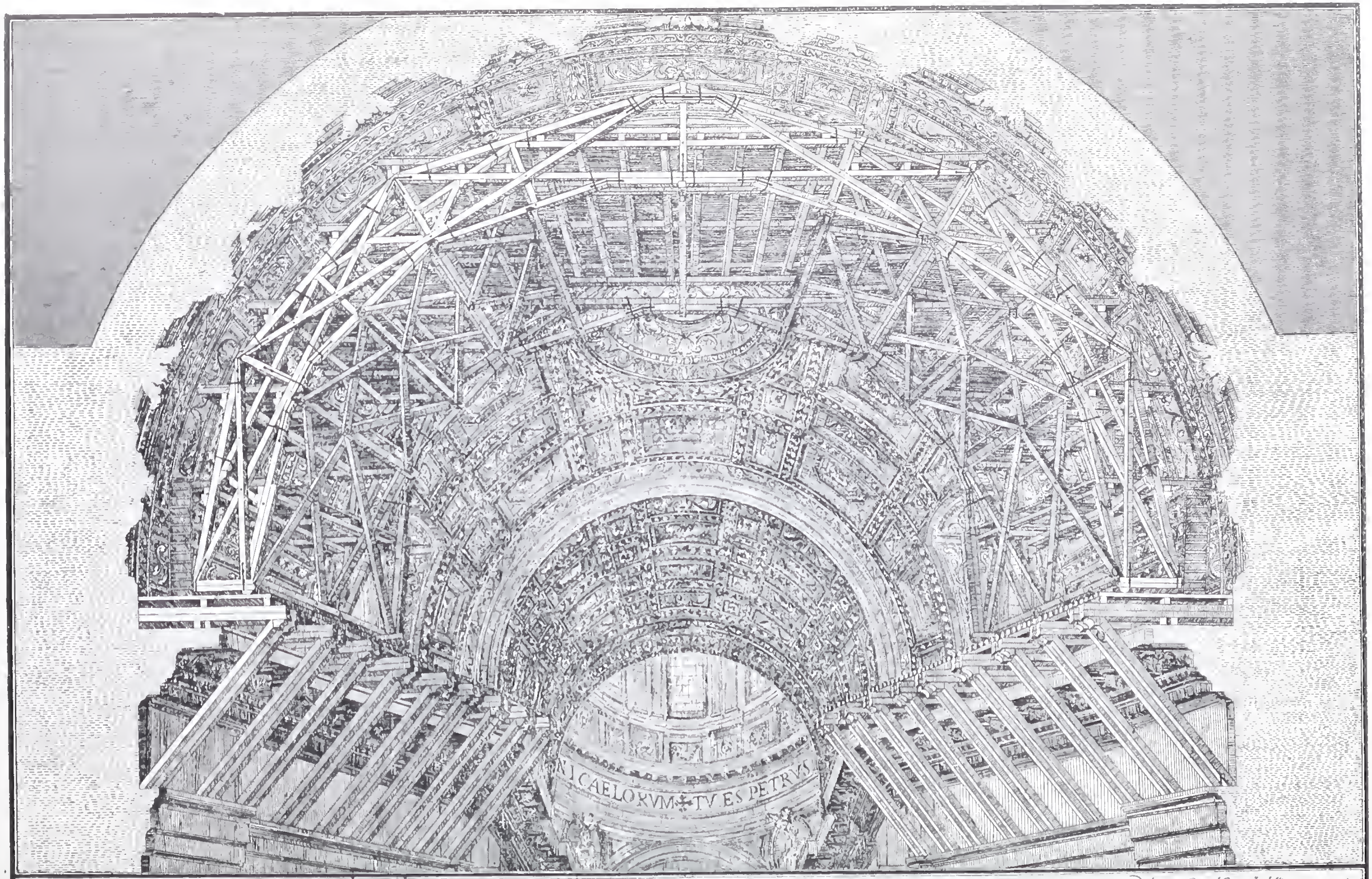


FIG. 5.—TOMB OF INNOCENT VIII. IN ST. PETER'S, ROME, SAID TO BE BY IL CRONACA.

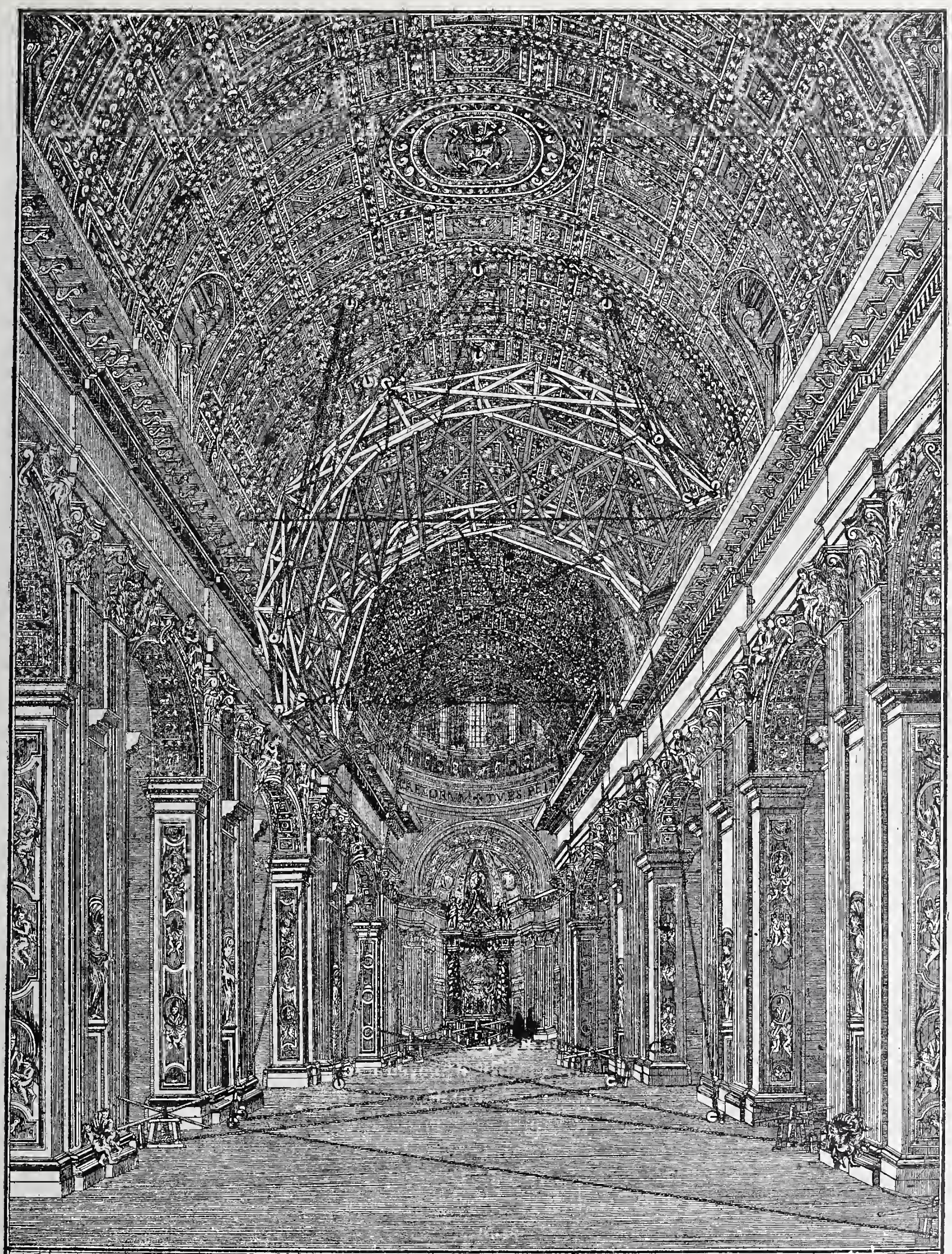

N I CAELORVM ✠ TV ES PETRVS

Proſpetto dell'intiero Ponte, il quale è compoſto di undici ripiani per comodo di riſtaurare li Ornati ed altro che puole occorrere nella volta Maggiore del Tempio Vaticano, con veduta dell'Armatura fatta Sopra il Cornicione, acciò poſsa ſcorrere l'indicato ponte ove fa di bisogno ſenza diſarmarlo delli mentovati ripiani.

Dedicato a sua Eccellenza Reverendiſsima Monsignor Francesco Caſſarelli Segretario Economo della Reverenda Fabrica.

Ideato il delineato Ponte in tutte le sue parti da Pietro Albertini Soprastante di detta Reverenda Fabrica di S. Pietro in Vatican.

FIG. 6.



Prospetto interno del Tempio Vaticano, con veduta del Ponte nella maniera in cui fu inalzato ſul Cornicione del medesimo Tempio, con ſei Argani destinati per il tiro del sudetto Ponte seguito il giorno 26. Novembre dell' Anno 1773.

Dedicato à Sua Eccellenza Reverendiſsima Monſignor Franceſco Caffarelli Segretario Ecconomo della Reverenda Fabrica

Inventata il delineato Ponte da Pietro Albertini Soprastante della Reverenda Fabrica di S. Pietro in Vaticano

5 10 20 30 40 50 60 70 80 90 100

Giacomo Sangermano *Scala di Palm Cento Romani per la Proporzione del Ponte, e sito nel sesto maggiore ove si dimostra il tiro del medesimo nella lettra* A B *delin. e sculp.*

FIG. 7.

and whose width is 39 feet, with a niche 16 feet 4 inches in diameter in the right angle next the dome. Each pier has a perimeter 285 feet, and an area 2,256 feet, which ought to bear at least a weight of 6,768 tons.

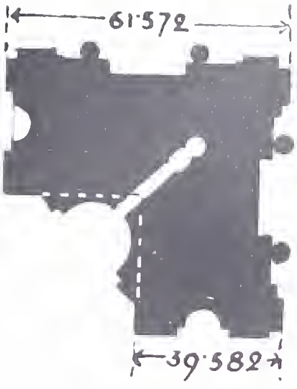


FIG. 8.

That part of the vault of the nave that extends from the dome as far as Michelangelo intended his church to go is to the soffit of the rib about 10 feet thick, while that over Carlo Maderno's part is about 3 feet 3 inches. Who vaulted the thick part I do not know, whether Michelangelo, Giacomo della Porta, or Vignola, or whether it was made so thick from antique examples, though thicker than most of the Roman vaults, or to be a stay to the dome; but as it makes a break in the vault, Carlo Maderno's vault being level with its top, attention is drawn to the fact. But, as I have not attempted to go into the statical problems of the building, it is too late to begin now, and I will merely make a few remarks on its effect. The whole vault is coffered, and both the ribs and panels are enriched with ornamental plastering which has rather the air of being cast. At any rate, it has none of the artistic power of the hand-worked Roman plastering as you see it in some of the streets at Pompeii and in the tombs on the Appian Way, nor as you once saw it at Hadrian's villa at Tivoli; and as the plain parts of the vault are painted white and the ornamental part gilt, it is frightfully monotonous. It was being cleaned or repainted when I was there in 1898, and the flying scaffold was in use. Mr. Walter Severn was amiable enough to present me with two old engravings of the flying scaffold [pp. 86, 87].

The use of the mosaic copies of Rafael's celebrated pictures is to be commended as likely in case of a fire at least partially to preserve the design, but the colours are so execrably imitated that their want of harmony almost makes one shudder. I presume that the quantity and costliness of the work satisfy the ordinary worshipper, for when I was there in 1853 I went to one of the celebrations when the Pope is carried round the Cathedral, and the Cathedral was crowded with worshippers, most of them peasants, who even then had nearly obliterated every sign of modelling on the great toe of St. Peter by kissing it with their dusty lips.

St. Peter's is a lesson to us all that mere size, the lavishing of money, the use of costly materials and of the fashionable art of the day, are not enough to render any monument a subject for perennial admiration if the fire of genius be wanting in the artists who erect it and the epoch is wanting in sympathy with grand creative genius. We cannot say, as Plutarch does, of the buildings on the Acropolis at Athens, "As each of them, as soon as finished, had the venerable air of antiquity, so now they are old they have the freshness of modern building. A bloom is suffused over them which preserves the aspect untarnished by time, as if they were animated with a spirit of perpetual youth and unfading excellence."

At the epoch in which St. Peter's was completed, you could not expect from the artist that singleness of purpose nor that love of fame that will force him to devote endless labour in attempting to perfect his ideal; popular applause, wealth, and titles were then enough for him, and these he got. Excellence in the fine arts is the thermometer of a nation's elevation, and when the nation grovels you will never find great pictures, great sculpture, great architecture, and still less great poems. As the poet says, to make anything touch us the artist must feel when

> That child's heart within the man's
> Begins to move and tremble,

and must seize the moment of inspiration.

All those wonderful tombs, from those of Jacopo della Quercia to those of Desiderio da Settignano and Mino da Fiesole, are exquisite. Of the works of that mighty genius Michelangelo all are striking; but perhaps his fame rather rests on his paintings on the ceiling of the Sistine Chapel than on anything else, though he said to the Pope, "I am not a painter." Architects owe him a grudge, however, for dwarfing the Sistine Chapel by his enormous figures. That helmeted figure of Lorenzo de' Medici in the new sacristy of San Lorenzo at Florence stamps itself indelibly on the mind, and has a fascination about it that no other figure possesses, and was a marked advance in sculpture; while his "Slave" is to me by far the most delightful figure he ever did; but this may not be the verdict of a sculptor. In architecture, the Mausoleum of the Medici, commonly called the Sacristy of San Lorenzo, is stamped with the greatest sublimity of all his architectural works that I have seen, in spite of its solecisms. Of his poems I am no judge, though one must remember that Wordsworth, who translated them, said he could satisfactorily put into English a canto of Ariosto in a week, but found it took him longer to translate satisfactorily one sonnet of Michelangelo's.

Michelangelo was a genius whose mighty mind begot an admiration of his power. He was an indefatigable worker, a man perfectly upright, of simple habits and full of practical kindness to his family, and a patriot when most of the other artists seemed to forget that they had a country, and who worked for nothing on St. Peter's the last seventeen years of his life. But from his youth he had a furious temper and was sarcastic, and from putting Torrigiano in a passion got his nose broken. He was thought to be of a churlish and surly turn. Rafael said he stalked about Rome like the hangman, and his behaviour to Leonardo da Vinci was not polite. He, however, said it was from absorption in his art. I think he was less generally liked in his lifetime than Leonardo da Vinci or than the divine Rafael, though he was almost adored by Vasari and Benvenuto Cellini, but he was looked up to by all the artists as the Great Master. Of all that he left behind him at St. Peter's, except the outline of the drum and dome, there is nothing that delights us who are not sculptors except perhaps his "Pietà."

9, Conduit Street, London, W., 21*st Dec.* 1901.

CHRONICLE.

Paper by Dr. Murray for the Meeting of 6th Jan.

There being no professional or other questions for discussion at the Business Meeting fixed for the 6th January, the Council have decided to turn it into an Ordinary General Meeting, and Dr. Murray, having been approached on the matter, has very kindly consented to deliver a short discourse on Two Ionic Capitals in the British Museum. One of these capitals is a restoration of an archaic capital from Ephesus, of an entirely new character. The other is an angle capital from the Temple of Wingless Victory at Athens, which was brought here by Lord Elgin, but was only identified a month or two ago. Dr. Murray is having some slides made for the occasion, and an interesting evening may be confidently anticipated. The Meeting will of course be open to non-members, including ladies.

The Proposed New Cathedral in Liverpool.

The following correspondence has passed between the Council of the Institute and the Liverpool Cathedral Committee :—

9, *Conduit Street, W.: 20th November* 1901.

The Liverpool Cathedral Committee, Church House, Liverpool.

Gentlemen,—At a meeting of the Council of the Royal Institute of British Architects, Mr. John Slater, *Vice-President*, in the Chair, we were instructed to submit for your very earnest consideration certain points in connection with the competition for the proposed new Cathedral in Liverpool.

In the first place, the Council of the Royal Institute regret that, a competition for the Liverpool Cathedral having already taken place and a design selected under competent advice, it should have been thought necessary to inaugurate another competition.

The new competition, however, being now instituted, the Council direct us to express their views as follows :—

1. They regret that for such an important building a site has been proposed which does not possess the advantage of being in a central position, and presents many practical disadvantages.

2. In view of the necessity of securing the confidence of the architectural profession in a competition for a building of national importance, the Council of the Royal Institute strongly advise the Liverpool Cathedral Committee, as a first step, to appoint professional assessors, who should be men of eminence, whose names should be published forthwith, and to whom should be entrusted the preparation of the conditions.

3. They are of opinion that instead of inviting the submission of portfolios of miscellaneous designs and photographs, the Liverpool Cathedral Committee should institute a preliminary sketch competition, open to all architects, for a cathedral designed for the special site selected.

That all such designs should be sent in anonymously.

And that from such designs a limited number should be selected by the assessors, the authors of which should be invited to take part in the final competition.

4. They urge that in the conduct of the two stages of the competition the selection and award made by the assessors should be accepted by the Liverpool Cathedral Committee.—We have the honour to be, Gentlemen, your obedient servants,

Alexander Graham,
Hon. Secretary.

W. J. Locke,
Secretary.

The Church House, Liverpool, 3*rd December* 1901.

The President and Council of the Royal Institute of British Architects.

Sir,—We have the honour to acknowledge receipt of your letter of the 20th ultimo, which has been very carefully considered by the Executive Committee, and we are instructed to thank you for kindly placing before the Committee your views as to the competition for the design of the proposed Cathedral for the Diocese of Liverpool.

Taking the points to which you draw the Committee's attention seriatim, we are desired to say :—

1. In inviting a fresh competition the Committee were guided by the fact that the previous competition was for a cathedral to be erected upon an entirely different site, and moreover the competition took place fifteen years ago.

The site of St. James's Mount was selected by the Bishop's Committee after prolonged consideration, and careful study of all the possible sites—they had the advantage of the professional assistance of Mr. George Bradbury, the Diocesan Surveyor, and they had also before them the exhaustive reports prepared by Mr. Shelmerdine, the City Architect and Surveyor. This selection was afterwards confirmed at a public meeting held at the Town Hall on June 17, under the presidency of the Right Hon. the Earl of Derby, K.G., the Lord Lieutenant; to this decision the Committee adhere.

The Committee have the advantage of local knowledge of the present City, and its probable extension in the future, and of the requirements of the Diocese. St. James's Mount is the largest open space available, it is very commanding, it is central and offers great opportunities for architectural effect, and is the most suitable from its environments as a site for the Liverpool Cathedral.

2. The Committee have endeavoured to follow the lines laid down by the late Mr. Ewan Christian in the original competition, viz. to hold a preliminary competition, and from the drawings submitted in this competition to select a certain number of architects who will be invited to send in designs for the proposed Cathedral.

3. The Committee, in asking for portfolios to be submitted in the first competition, had regard to the probable engagements of leading architects which might prevent their submitting drawings specially prepared for this Cathedral, and they did not limit the competition to portfolios of drawings of executed work, as they felt that there might be architects who had not had the opportunity of doing any ecclesiastical work of importance and yet might be qualified to be included in the final competition.

The Committee had before them the fact that St. George's Hall in this city was designed by Mr. Elmes, a very young, and up to that time an unknown, architect.

The Committee intend to appoint professional advisers to assist them both in the preliminary and final competitions, and in the preparation of the conditions under which the final competition will take place—they have not yet come to any decision as to whom they shall invite to advise them, as it might lead to the exclusion of eminent architects from entering the competition.

4. That while the views of the architectural advisers whom the Committee will appoint will very properly have the greatest weight with the Committee, they feel that they would not be carrying out the great trust placed upon them by the subscribers if they left the decisions both in the first and final competitions absolutely in other hands.

The Committee are very sensible of the national importance of the work entrusted to them, and they hope after this explanation of their views the Council will feel assured that everything possible will be done by the Committee to honourably select the very best design.

We are, yours faithfully,

William B. Forwood,
Chairman of the Executive Committee.
R. Alfred Hampson,
Secretary.

Special Election to Fellowship.

Under the proviso to By-law 9, the Council at their meeting on the 16th inst. elected the following gentleman to the Fellowship of the Royal Institute—viz.:

Henry George Luff [*Assoc.* 1864], *President of the Devon and Exeter Architectural Society;* of 64, Chapel Street, Devonport.

"A Modern Cathedral"!

The following article under the above heading in the last issue of the *Observer*, which has been brought to the notice of the Editor by Sir Lawrence Alma-Tadema, R.A. [*H.F.*], may be of interest to members. Considered in the light of the lay mind protesting against the charge that the general public shows no intelligent regard for architecture, it points an obvious moral. Read in connection with the Liverpool Cathedral controversy, it distinctly adorns a tale.

> The site for the Liverpool Cathedral has apparently not yet been chosen, nor yet the style that is asked for as a development of the ancient forms of architecture. In smaller churches a modern style has been devised. There is the red brick Norman Shaw looking building, small, warm in appearance, both outwardly and in its interior. For the larger building that would make a more dignified appearance, the simple Greek architecture would be well adapted, were it not reminiscent of the civic hall, while the Byzantine style would not be sufficiently refined to be well adapted to the spirit that should pervade the Christian Church. The Greek style, in its early purity and simplicity, is less artificial and more likely to be successful than the imitated Gothic, which in the larger and more ambitious buildings brings with it a weary sentiment of misspent labour and expense. The true Gothic cathedral, with its sense of decades of voluntary labour for its construction, with the loving care bestowed on its every detail, its quaintness, variety, and mystery, is more like a human growth, so that it almost seems to breathe, rather than a mechanical construction, and as such can scarcely be repeated under modern conditions. The coldness and severity of the Greek temple in the absence of the warming and bright sun illumining the white marbles of its exterior is not sufficiently sentimental and sympathetic for these climes. If it could be modernised or naturalised by the advent of colour—brought in by slabs of coloured marbles for the exterior and interior decoration, mosaics of glass and marble, and by stained glass, the chilling effect would be obviated. There are several well veined and red coloured marbles in the Devonshire quarries, and in Connemara, such as are in ordinary use as framework for gratings and for mantelpieces. There is the Mexican onyx, suitable for smaller pilasters, and innumerable Italian marbles varying in value and in beauty. The interior might be further brightened by flowering shrubs and plants throughout the year, these not necessarily costly or so trivial in character as the festival decorations of cut flowers and branches. There might be window-boxes of suitable design like projecting fonts; and iron and bronze work introduced. But the plain and bare form of the Greek temple would be scarcely suitable for a large cathedral, unless indeed it were made as a group of temples in the form of a wheel, round or oval, or in triangular form, with encircling steps, and with a central tower. In this tower might be arranged chambers for quiet meditation, on the walls designs of the process of the organic creation of the world and maps of the

heavens, and telescopes might be a means of abstracting the thoughts from the narrower circle of our world, whilst the human call might be used instead of the mechanical tinkles of the carillon or the too-often dissonant tones of metal bells.

The late Hugh Leonard [*H.A.*], F.S.A., M.Inst.C.E.

An old and valued friend of the Institute has passed away in Mr. Hugh Leonard, late Chief Engineer to the Government of Bengal, who died on the 15th inst. in his seventy-eighth year.—Mr. Leonard retired from the Indian service and the active exercise of his profession some twenty-five years ago, and took up his residence in London. He became an Hon. Associate of the Institute in 1878, and was a frequent attendant at General Meetings. For the past nine years he had served, by the Council's appointment, on the Science Committee, bringing to their labours a ripened experience and skill which were of no little value to the Committee in their brickwork tests a few years ago. He himself had carried out in Calcutta in the early 'seventies a series of experiments on brickwork and masonry which have had extremely beneficial results to building in that district. A detailed description of them appeared in *Engineering*, vol. xx., and a briefer account was contributed by Mr. Leonard to this JOURNAL [Vol. II. pp. 593–95]. Mr. Leonard had travelled a good deal in China, and the same volume of the JOURNAL contains some interesting notes of his on the Great Wall and the Ming Tombs.—The funeral took place at Hanwell Cemetery on Thursday, a floral wreath being sent as a mark of respect from the Institute.

The late Edmund William Smith [*H.A.*].

Mr. J. R. Moore-Smith [*A.*] sends news of the death of his brother, Mr. E. W. Smith, of the Indian Archæological Survey, which occurred from cholera on the 21st ult., while on service in the Forest of Bahraich, Oudh.—Mr. E. W. Smith, who was elected Hon. Associate of the Institute last January, succeeded Dr. Führer as Archæological Surveyor for the N.-W. Provinces and Oudh in 1898. For many years previously, however, while Architectural Assistant to the Survey, he had practically controlled the archæological operations in that part of India, his nominal chief being engaged in epigraphical and antiquarian work. The Annual Progress Reports of the Indian Archæological Survey show the magnitude of the work of restoration and repair initiated by him, and carried out by the Public Works Department under his directions. They also attest his peculiar fitness for a position of such responsibility. To mention his work in Agra alone during the past three or four years the Táj, and the four buildings associated with it known as Saheli Burj, the Fatehpuri Mosque, the Agra Fort, and the west wing of the Jahángiri Mahal, have all been thoroughly repaired or restored. Speaking of the work carried out at the Táj, the Report issued last August states that in all kinds of restorative work Mr. E. W. Smith had "tapped a vein of latent natural talent which has given excellent results. In fact the Department had called into activity a school of artisans expert in this kind of work. Many of them claim to be the descendants of the artificers who worked under the Emperors Akbar and Shahjahan." A specially interesting feature of his work was the restoration of frescoes dating from the Moghul period which were discovered in the Fatehpur Sikri building and also in the Agra Fort and at Sikandra. No attempt was made to restore the whole frescoes, which were of the nature of panels decorated with floral and geometrical ornamentation, but sufficient was restored to give a true idea of the original. The results of his survey of Akbar's capital at Fatehpur Sikri were published in four handsome volumes entitled *The Moghul Architecture of Fatehpur Sikri*. A few months ago Mr. Smith published *The Moghul Colour Decoration of Agra*, a volume dealing principally with the Chini-ka-Rauza, a building possessing an outside coating of rich tiles worked up into numerous beautiful designs, while the interior is ornamented with frescoes. In 1898 Mr. Smith was commissioned by the Indian Government to prepare a portfolio of Indian architectural drawings. These exhibit selected specimens of the Moghul architecture of Fatehpur Sikri, and details of Akbar's Tomb and of the Kánch Mahal at Sikandra. Mr. Smith held also the appointment of Curator of the Government Museum at Lucknow.

REVIEWS.

THE LONDON BUILDING ACTS.

The London Building Act 1894, *and the Amendment Act* 1898: *A Text-book on the Law relating to Building in the Metropolis, for the Use of Architects, Surveyors, Builders, &c. Illustrated with numerous plates. By the late Professor Banister Fletcher. 3rd edition. Revised, with further diagrams and cases, by Banister F. Fletcher, A.R.I.B.A., and H. Phillips Fletcher, A.R.I.B.A., Assoc. M.Inst.C.E., Barrister-at-Law.* 8o. *Lond.* 1901. [*B. T. Batsford, 94 High Holborn.*]

The text-books of the late Professor Banister Fletcher hold such a high place as works of reference that it is incumbent on his successors to see that the standard of excellence which they have reached is at least maintained, if not raised. With the happy combination of legal and architectural qualifications possessed by the late Professor's sons it should not be difficult for them to improve the work which is the subject of this notice.

The London Building Act 1894 consolidated and amended some thirteen Acts of Parliament, which, according to the preamble of the new Act, were "complicated, and in some respects doubtful." If that were true of the old law, what shall be said of the new? The late Sir John Bridge, whose words have been generally accepted and endorsed, said that "wherever the provisions of the Act were intelligible many were intelligible in two different ways, and capable of two different constructions." It is therefore of importance to all architects practising in the Metropolis, as well as to those who have to administer the Act, that the doubtful points, so far as they have been decided by the Courts, should be clearly and concisely set forth in any revised edition of the Act. Some attempt has been made to give this information in the present edition, but the decisions are so condensed that it is not always possible to gather what was the question at issue and how far the judgment is applicable to other cases. The idea of giving a brief summary of the judicial finding after the section to which it applies is excellent, but it would be an advantage if a place were found at the end of the book for a short outline of the facts and judgment in each case quoted. This would tend to increase the size of a somewhat bulky volume, but it was found practicable twenty years ago in a much smaller volume, and the precedent might be followed with advantage. The work as a whole is so complete and useful, embracing as it does in a compendious form the numerous statutes, by-laws, regulations and rules affecting buildings, streets, paving, house drainage, theatres, factories and workshops, &c., in the Metropolis, that it is difficult to see what can be omitted without serious loss. Upon the whole, perhaps the least useful portions of the work are the Abstract Tables, Nos. 1 to 23, and that part of Appendix I. which sets forth in detail the various forms of notice in use by district surveyors.

With regard to the Abstract, or mutilated text, one or two extracts will perhaps suffice to show how dangerous it is to attempt short cuts in construing an Act of Parliament. The last rule of Table XVI., which purports to give the gist of Section 207, reads: "No alteration (except with consent of Council) to be made unless in conformity with this Act applicable to new buildings." The inference from this is that so long as your new work is in conformity with the Act you may proceed, but this permission is given in Section 209. The point of Section 207, which has been entirely missed, is that you may *not* make an alteration even though you follow implicitly the rules of the Act, so far as your alteration extends, if by reason of such alteration some other part of the building becomes irregular, no matter how remote from the seat of operations. This is new law, and should be carefully borne in mind. Very recently a builder erected a brick wall to separate the passage and staircase leading to the dwelling-rooms on the upper floor of a building from the business premises on the ground floor, for the purpose of separate rating. The work he did was in itself perfectly regular, but by reason of this partition the wooden floor over the shop became a "party structure" (by definition), and, not being constructed of "brick, stone, or other incombustible materials," did not comply with Section 71 (1) of the Act, and what was regular before the alteration became irregular by reason of the alteration. Therefore the alteration, although regular in itself, became illegal.

Out of seven acts of conversion enumerated in Table XVII., six operations, such as converting a shop into a dwelling-room, are stated to be unlawful except with the consent of the Council. This is a very serious editorial slip. The conditional clause, commencing "In such manner," has been attached to the seventh operation alone instead of to the whole. There is also a printer's error here, the word "constructed" being used for "converted."

In Table VI. the rules (*a*) and (*c*) as to timber or woodwork appear to be contradictory: (*a*) relates to timber built into a wall, whilst (*c*) refers to woodwork abutting upon a wall. This is not made clear.

In Table XV., rule 2 is meaningless.

Having regard, therefore, to the mistakes which are likely to be caused by the use of these Tables, it would seem wiser to go direct to the text of the Act and let the Tables give place to more useful matter in the form of short reports of leading judicial decisions.

Many High Court cases of great importance have been omitted, presumably because they were given under the old Act, but where they still hold good it is a pity not to have given the references. In the case of *Holland and Hannen* v. *Wallen*, argued before Mr. Justice Mathew and Mr. Justice Cave (70 L.J. 376, 10 T.L.R. 300), it was held, *inter alia*, that warehouses exceeding 216,000 feet in cubic extent must be subdivided by party walls and not by fireproof floors. No reference is made to this case, although the case of *Crow* v. *Kearley and Tonge*, which turned entirely upon it and is only a magistrate's case, is quoted.

The case of *L.C.C.* v. *Davis* (77 L.J. 693) is cited, but no facts or suggestion of the nature of the case are vouchsafed. (The note given should have been appended to the Rowton House case, argued at the same time.) Perhaps, from a public point of view, it might be well not to disclose them; but, on the other hand, a fuller knowledge of the working of the Act with regard to the sections dealing with dwellings "to be inhabited by persons of the working-class" may lead the more speedily to some amendment designed to meet the deliberate evasion of the Act by speculating property owners. The decision of the Divisional Court (Justices Hawkins and Channell) was to the effect that a building could not be held to be a dwelling-house to be inhabited by persons of the working-class unless it could be shown that it was either (*a*) "a building that the person erecting intended should be a dwelling-place for people of that class," or (*b*) "a building structurally adapted for the purpose, *i.e.* adapted to it in its construction." The result of this decision is that a man has only to omit all such provisions as properly ventilated food cupboards, dressers, ranges and sinks (possibly he puts a tap in the w.c. or on the landing outside), and the law supports him, saying his house is not "structurally adapted." But he knows his business only too well. He knows he is supplying the demand of a million people living in a dense belt around the City, the breadwinners of whom average a weekly wage of less than twenty-one shillings. What care that million about "structurally adapted"? To them a room is a floor with four walls and a roof to keep out the rain and temper the biting wind. The range might be useful if there were a joint to be roasted, but when the joint is absent a saucepan answers every purpose. Five shillings a week for a single room and something for the key is a difficulty which is cheerfully faced if only the family can be got in. But the landlord does not let his house out room by room or floor by floor, for if he did he would be guilty of "intention to let," which would bring him within the ruling of the Court. Instead of this, he craftily lets the whole house to one man, and shifts the "intention to let" from himself to his tenant, who is outside the pale of the Building Act, and who he knows must sublet in order to find his weekly rent.

All this it will be said has nothing to do with the Building Act. But if in the nature of things it may be impossible for any building enactment to deal with the question of overcrowding, it is at the same time imperative that it should be made impossible to build dwellings of any description without proper yard spaces at rear, and having, in consequence, internal soil pipes and inspection chambers. The law does not allow this in the case of men honestly endeavouring so to plan and fit their buildings that each tenement, however small, may be a dwelling-place worthy of the name of Home: then why should it protect the man who, having a full knowledge of the use to which his building will be put, neglects to provide the necessary appurtenances for separate occupation?

The index might with advantage be subject to further revision and extension. Take "Habitable Rooms," for example. Rules as to windows and skylights therein are stated to be found on p. 81, but no reference to p. 67 is made, where Section 45 sets forth the window requirements for habitable rooms abutting upon an internal court or area. These rules are indexed under "Courts within a building," but ought also to be found under "Habitable Rooms" and again under the heading "Windows." Under the heading "High Court" the word "Tribunal" has been omitted. "Theatres" are in the index, but have to be sought out.

The new plates showing the working of the air-space sections are very useful, and give a rough idea of the limitations imposed by the 1894 Act. Plate 5, however, fails to point out an important concession which architects in general have been slow to take advantage of, viz. that in calculating the height of a building the measurement is taken "in the case of gabled buildings to the base of the gable," and as no restriction is placed on the number or extent of the gables, which may be two stories in height, it is to be regretted that this tacit invitation to beautify the skylines of our streets has not been oftener accepted. How beautiful this feature may become has seldom been more ably demonstrated than in the five gables of the Constitutional Club, harmonious alike in form and colour and attaining their full glory in the glow of a western sun. At the rear also some relief is afforded, and the horizontal skyline may be broken by a dormer or chimney to the extent of one-third of the total width of the building. This is not shown on the diagram.

The plates show a considerable falling off in the quality of the drawing and lettering, giving the impression of undue haste in preparation. The errors in the original plates have been perpetuated, and others allowed to creep in. The words "when less than four feet" in Plate 7 should be omitted from the section, as they are misleading. In Plate 6 chases in party-walls should come under Section 60, leaving the recesses only for Section 54. Chases must be seven feet apart if on the same side of the party-wall, but may nearly adjoin if on opposite sides, which is a weak point in the Act.

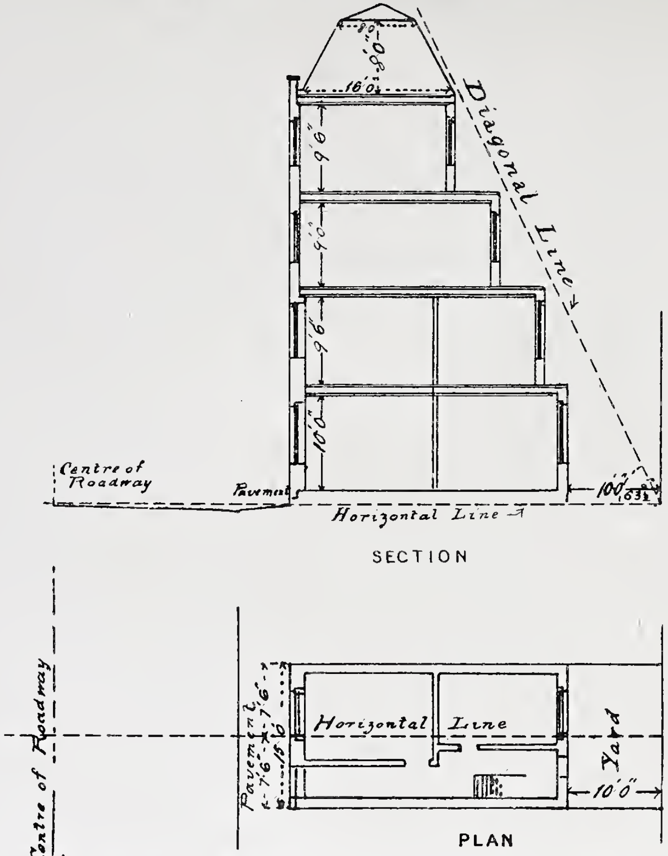
Plates 12 to 23, showing cross sections of dwelling-house and warehouse walls, are very serviceable, but not entirely trustworthy without reference to the text of the schedule. In Plates 14, 15, 16, 20, 21, and 22, the section of the brickwork for walls over 45 feet in length is taken through the piers instead of through the recesses: the concession is therefore lost sight of.

In this connection it is impossible not to refer to one of the curious anomalies of the Act, viz. that in the case of warehouse walls over 45 feet in length a wall 41 feet in height has to be three bricks in thickness on the lowest floor throughout its entire length, while a wall 80 feet in height need only be $2\frac{1}{2}$ bricks thick, with $\frac{1}{2}$-brick piers equal in width to a quarter the length of the wall.

Plate 2, as will be seen from the reproduction [page 95], shows the air space required to be left at the rear of dwelling-houses abutting on new streets and the setting back of the upper stories so as to come within the diagonal line. Looking at the

PLATE 2.

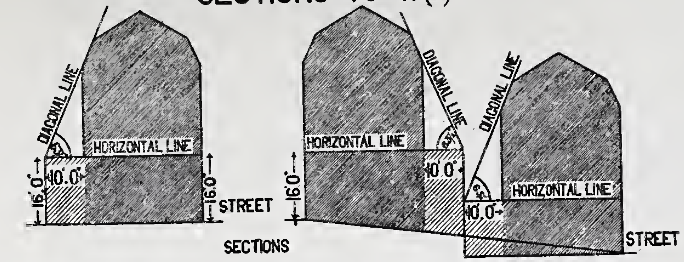
ILLUSTRATION AS TO SEC. 41. BACK YARDS



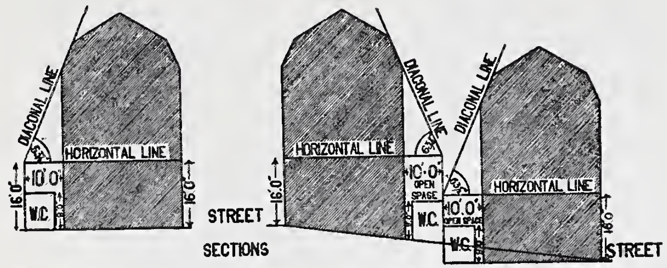
This diagram is in illustration of the angle where Domestic Buildings are erected abutting on Streets laid out after 1st January 1895 & the stringency is relaxed where the Domestic Building abuts on Streets laid out before the commencement of Act by the horizontal line being raised 16 feet above the pavement level

PLATE 3.

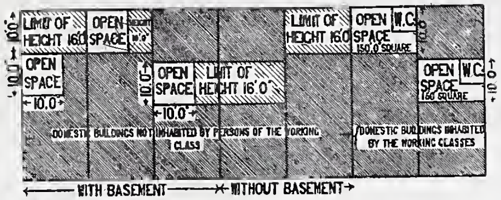
DOMESTIC BUILDINGS ON OLD STREETS SECTIONS 40 & 41 (2)



DOMESTIC BUILDINGS NOT INHABITED BY PERSONS OF THE WORKING CLASS



DOMESTIC BUILDINGS INHABITED BY THE WORKING CLASSES



PLANS

matter from a public health point of view rather than from the standpoint of the landowner, the air-space rules can only be said to be "stringent" by comparison with the complete liberty which became licence under the old Act. Plate 3 [page 95] illustrates a few examples of the application of the air-space provisions of Section 41 (2) at the rear of dwelling-houses on *old* streets. These sections show the results of the disastrous concessions which the London County Council had to make in order to secure the passage of their Bill through the House of Commons. Bad as the cases represented undoubtedly are, much worse is possible. In practice basements are added and occupied as living and sleeping rooms in spite of the provisions of the Public Health Act regulating the construction of underground rooms, all of which go by the board because the rooms are never separately occupied as a dwelling, but are always let with one other room above the level of the ground, which is sufficient to secure immunity from the regulations in question.

Messrs. Fletcher are to be congratulated on the production of a very complete work of reference, which should be found on the table of every architect in London. Arthur Crow.

THE GREEK AND ROMAN ORDERS.

Classic Architecture. A Series of ten plates illustrating typical examples of the Grecian and Roman Orders. By Charles F. Mitchell and George A. Mitchell. B. T. Batsford, 94, High Holborn.]

It is stated in the preface that these plates have been published for students seeking admission to the Royal Academy Schools and to the Royal Institute of British Architects' examinations. The initial arrangement of the plates is good, giving large-scale details of all the main parts, and also a small plan of the building from which the example is taken, on the same page. A short description is also given of the position, dates, &c., of the various temples, which would doubtless give the student an added interest in his work. The drawings have probably suffered somewhat in the process of reproduction, and in many cases the flutings on either side of the column appear unpleasantly black. The authors show a method of obtaining the entasis to the columns, but in very many of the plates the cap and base are connected by a straight line. If a student were to do this it is exceedingly doubtful if he would pass either at the R.I.B.A. or at the R.A. The last two plates show some typical Greek and Roman ornament, drawn in a rather unsympathetic manner. The work is published at a very small sum, but even for the student who is unable to afford to purchase standard works they are usually available at the libraries, or from the shelves of their employers. Stuart and Revett, Spiers, Mauch, and many other books show the Orders well drawn, and as the student necessarily has to expend a good deal of time on his probationary studies, it is important that he should work from the very best illustrations.

R. Stephen Ayling.

LEGAL.

Architect's Commission as Land Agent.

THOMPSON *v.* TOLHURST.

This case was heard before Mr. Justice Lawrance and a Special Jury in the King's Bench Division on the 5th inst. It was an action to recover commission alleged to be due to the plaintiff as architect, surveyor, and land agent.

Mr. Duke, K.C., and Mr. Arthur Powell appeared for the plaintiff; Mr. Bray, K.C., and Mr. George Wallace for the defendant.

The plaintiff, Mr. J. W. Thompson, said that he was an architect, surveyor, and land agent at Southend, and the defendant, who was a solicitor, was the proprietor of the Warrior Square estate at that place. The defendant's affairs were conducted chiefly by his son, Mr. Bernard Tolhurst, who asked him if he could introduce lessees or purchasers, and said that the usual rate of remuneration would be paid. They agreed that there should be a fixed remuneration of 2½ per cent. for introducing a purchaser. As to leases, it was left to the usual terms, which were one year's rent. The plaintiff disposed of a plot to a Mr. Burdett, and the Hotel Victoria, of which plaintiff was architect, was built on it, and he was paid commission at 2½ per cent. in January 1899. The plaintiff prepared plans for an hotel for another plot, and endeavoured to find a purchaser, and ultimately, through Mr. Harold Greenhalgh, he introduced Mr. F. D. Hayward, who agreed to take a lease for 99 years at £2,000 a year, on the terms of erecting an hotel in accordance with the plans which the plaintiff had prepared. Mr. Hayward on the same day appointed the plaintiff his architect, and the Hôtel Métropole was built on the site. The plaintiff had received something under £3,000 as architect's fees for his five years' work. When the plaintiff asked for his commission, as he had to pay a share to Mr. Greenhalgh, the defendant's son said that the appointment as architect was the only remuneration to which he was entitled. A sum of £300,000 had been spent on the building, and the bank that had been financing Mr. Hayward had gone into possession. Mr. Hayward had become bankrupt, and could not now be found.

The defendant and his son, Mr. Bernard Tolhurst, gave evidence for the defence. They said that the arrangement was that the plaintiff was only to be paid for being architect of the building, and was not to have any commission, and in accordance with this they stipulated with Mr. Hayward that the plaintiff was to be appointed architect. As to the commission on the plot sold to Mr. Burdett, the defendant said that he was not liable, but paid it in case people should say he had behaved shabbily.

Witnesses were called on behalf of the plaintiff to prove the existence of a custom that on the taking of land on a building-lease at a ground-rent, the estate agent introducing the person who took the lease was entitled to a commission equal to one year's ground-rent, but they stated that where the ground-rent was a large sum like £2,000, as in the present case, there was generally a special arrangement, and a witness for the defendant said that a quarter of the ground-rent would be reasonable.

In the result the jury found a verdict for the plaintiff for £1,300, and judgment was given accordingly.

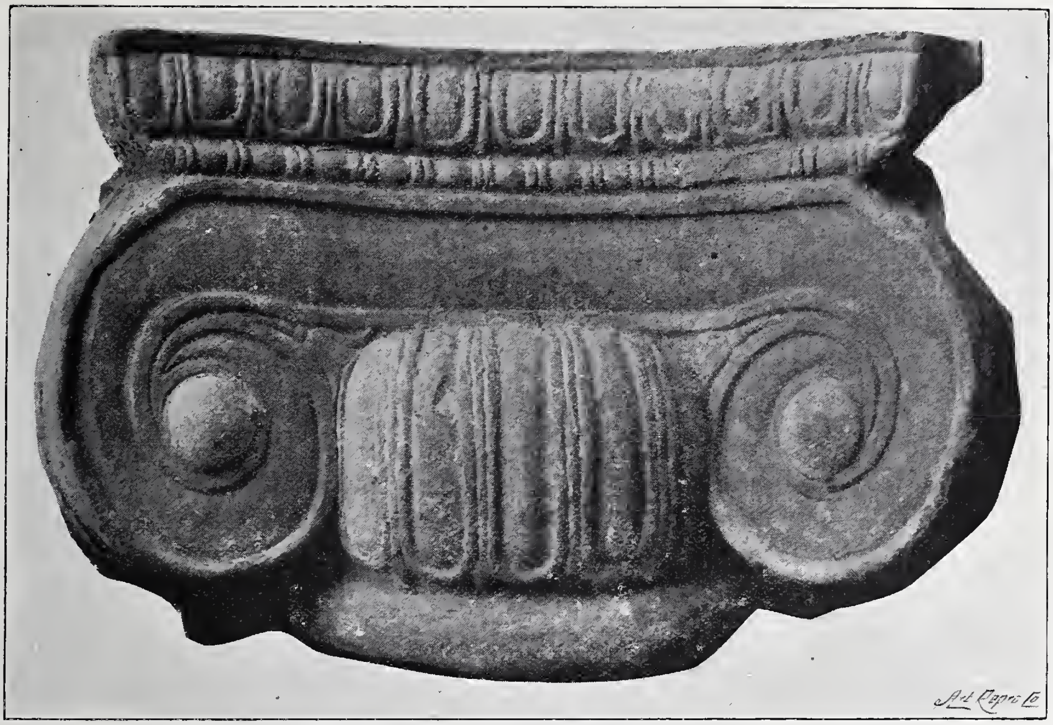


FIG. 1.—Archaic Ionic Terra-cotta Capital from Gela in Sicily, in the British Museum.

TWO IONIC CAPITALS IN THE BRITISH MUSEUM.

By Dr. A. S. MURRAY [*H.A.*].

Read before the Royal Institute of British Architects, Monday, 6th January 1902.

SOME months ago, during a visit to the Museum, Professor Meurer of Rome, who, more than anyone else, has made architectural ornament the business of his life, identified one of our Ionic capitals as in reality from the temple of Wingless Victory at Athens. It is an angle capital and belongs to the S.W. angle [fig. 2].

I may remind you that the Turks had converted the ruins of that beautiful little temple into a bastion. In Lord Elgin's time all that his agents could find to remove was some slabs of the frieze and this capital. After the Greek War of Independence the bastion was pulled down and much of the material of the temple recovered, so that it was possible to reconstruct the temple in a measure—in fact, as we now see it. Several more slabs of the frieze were then found, and many portions of the beautifully sculptured balustrade which had originally surmounted the lofty base of the temple. The slabs of the frieze were placed in position, but those of the balustrade were too few and too disconnected to admit of anything like an accurate reconstruction. They might, however, still be placed securely here and there, just to show how the high basement had been crowned. Anything would be better than the present handrail which takes the place of the balustrade in preventing visitors from falling over. I remember when there was even no handrail. On a windy day it was no easy matter to get round the N.W. angle of the temple.

As you know, the temple of Wingless Victory has four Ionic columns at each end—none along the sides. It is therefore *apteros*—that is, having no side colonnades—and possibly that feature may have had something to do with the later name of the temple, Nikè Apteros, or

Wingless Victory. It is true, there is an ancient statement that the goddess of Victory at some early time did not have wings, but that statement is not in accord with any representations of her that we know of now, nor with probability. It is more like a late invention to explain the name. Be that as it may, the official name for the temple was that of Athena Nikè. That had long been assumed to be the correct name, and was definitely confirmed as such some years ago by the finding of an inscription in the form of a public record ordering the building of the temple. The inscription is on marble, and states, among other things, that the designs were to be left to Callicrates, whose name is familiar as one of the architects of the Parthenon. It is agreed that the date of the inscription is not earlier than 450 B.C., but not much later—that is to say, about ten years before the completion of the Parthenon. It does not follow, however, that the work had been put in hand at once. On the contrary, there is another inscription added on the same slab referring to certain perquisites of the priestess of Athena Nikè, and that inscription is obviously a good deal later—about 430 B.C. Accordingly, between these two dates, 450–430 B.C., the temple had been built. At the latest it is therefore older than the Erechtheum.

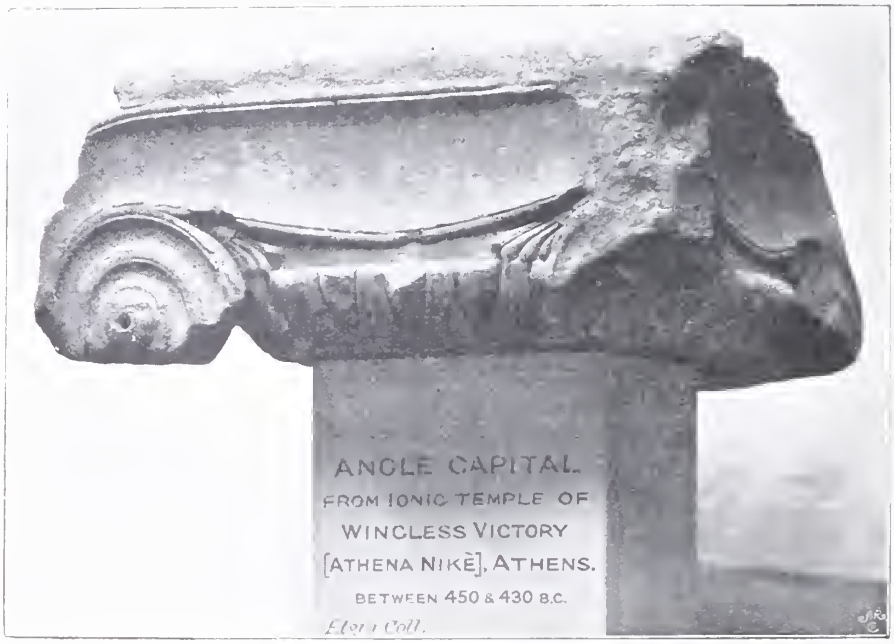


FIG. 2.

You can now study in the Elgin Room an angle capital of the Erechtheum side by side with the newly identified angle capital of Athena Nikè. The capital of the Erechtheum is exuberant in its beauty [fig. 3]; the other is simplicity itself. What strikes me most in it as an indication of greater antiquity is the treatment of the flower (anthemion) which connects the inner edge of the volutes with the egg and dart on the front of the cymatium. The leaves issue from a sheath which is not at all unlike that of our archaic Ionic capital from Ephesus. The leaves are very slightly convex, except the uppermost one in each group, which is very finely ribbed—at least it is so in two instances. Possibly the others had not been finished. Directly above the egg-and-dart moulding on the cymatium in front is a flat band or space, where, in the Erechtheum, we have a rich *guilloche*. The spirals of the volutes are broken up into three members—a thick one in the middle and a thin one at each side of it. The thick member vanishes towards the centre and splits into two in the upper part of the spiral. In so very small a building you will allow that this was in excellent taste. The eye of the volute is in the form of a plain boss, with a hole in the middle for the attachment, most probably, of a small rosette in bronze gilt. The abacus is a plain moulding without any enrichment. On the two sides the pulvinar or cushion is decorated with vertical flutings, quite shallow and finely worked. These are all characteristics such as we would expect in an Ionic capital somewhat older than the Erechtheum.

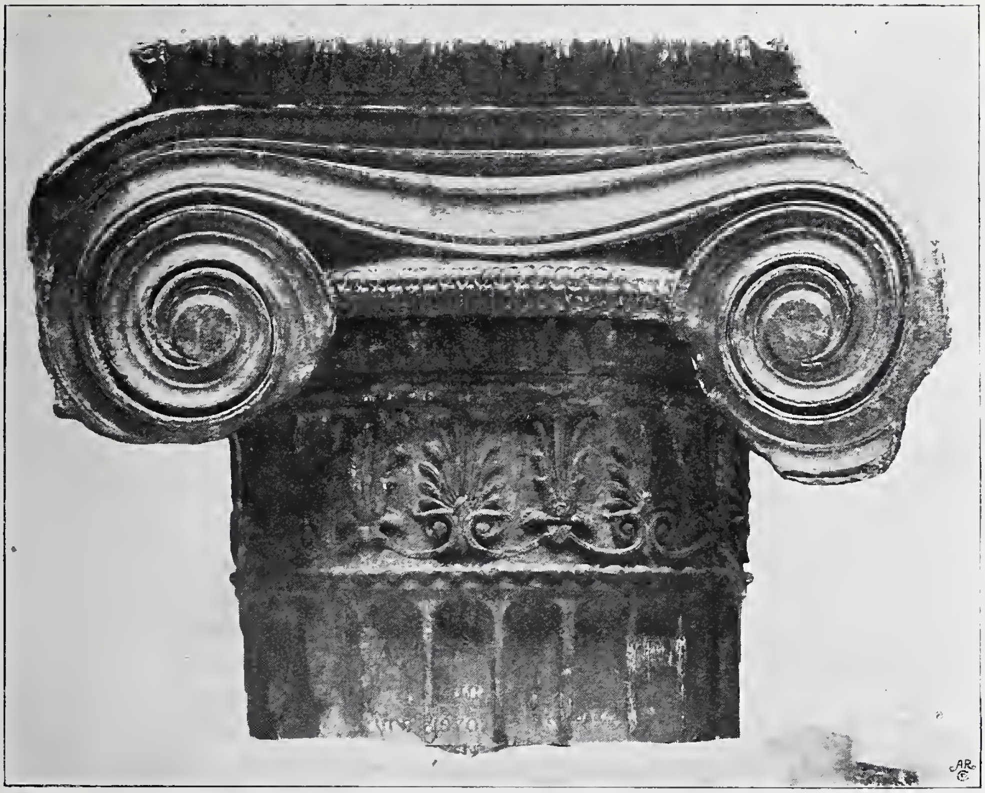


FIG. 3.—ANGLE CAPITAL OF THE ERECHTHEUM, IN THE BRITISH MUSEUM.

We have in the Museum a fragment of an angle capital of the Ionic order from the temple at Bassæ by Ictinus, the colleague of Callicrates in the building of the Parthenon, and it would be very satisfactory if we could claim positively our newly identified capital as the work of Callicrates. But I am bound to say that the Bassæ fragment [fig. 4] is both simpler and grander in its lines; in the place of an enriched cymatium there is only, so far as we can now see, a broad bead with fillet below. And, besides, there is still the question whether the commission given to Callicrates about 450 B.C. for the Victory temple had ever been executed by him. Some delay there had been. There we must leave the question.

As you are aware, one of the interesting sights at the Acropolis of Athens is the manner in which the south wing of the Propylæa had been made to stop short in consequence of something that stood in the way. That something was of course the temple of Victory, which could not be removed nor even turned round a little so that its axis would run parallel with the Propylæa. All that could be done was to alter the high base on which the temple rests so that the north face of it would align with the Propylæa, and to crown this high base with a sculptured balustrade. But, of course, it may have been an older temple than the present one which was the obstacle. And those who still argue that the architecture and the sculptured frieze of the present temple are later than the Propylæa must now fall back on that argument. That is their last resort.

At this point I will call your attention to a small terra-cotta capital we obtained from Gela in Sicily two or three years ago [fig. 1]. As you see it is archaic Ionic. The elongated eggs on the front of the cymatium recall certain archaic painted capitals on the Acropolis of Athens. The slightly convex canalis is in keeping with the sixth-century Ionic, as we now know. But the addition of an astragal moulding under the eggs of the abacus may be a mere caprice on the part of the modeller of this small capital. There are traces of colours—red, white, and blue.

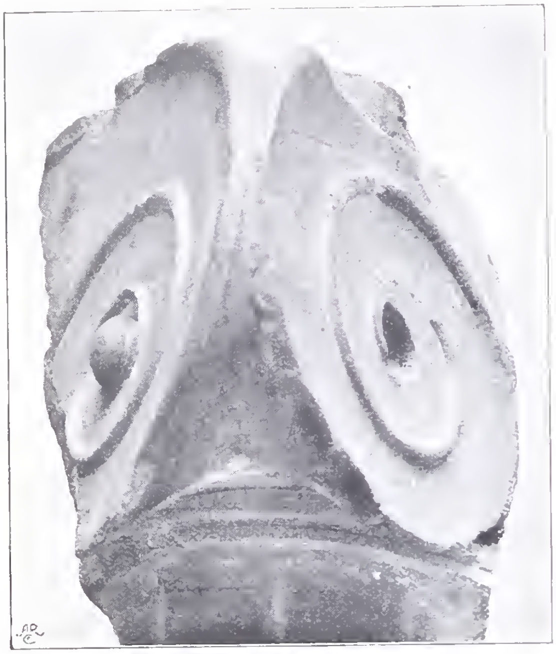


FIG. 4.—ANGLE IONIC CAPITAL FROM THE TEMPLE AT BASSÆ, IN THE BRITISH MUSEUM.

Let me now ask your indulgence for an experiment we have been making in the workshops of the Museum. As you may remember, I had once the honour of showing you here an Ionic capital from the archaic temple of Diana at Ephesus [fig. 5].* To a large extent it was a reconstruction from fragments of the old burnt temple which we found under the later one, and fortunately those fragments were enough to enable us to make the reconstruction without recourse to conjecture in any appreciable degree. But there remained over some other fragments of capitals from that same archaic Ionic temple. As they lay in the Archaic Room of the Museum they were almost unintelligible. After much doubting I decided to take certain of them in hand.

There were two pieces in particular which exercised a fascination on me. The one showed on the face a huge rosette in place of the volute usual in Ionic capitals. On the left return was preserved part of the side cushion or pulvinar, presenting much the same appearance as the capital we had previously restored. There remained also just a trace of the ornament of the cymatium under the overhanging pulvinar. But while on the previously restored capital the pulvinar was decorated with large vertical flutings which extended right down to the pattern on the cymatium, on the second fragment, which belonged to the right-hand side of the capital, these flutings have been changed into a massive pattern of elongated tongues and darts, the points of the tongues and darts stopping short about half-way along the under face of the pulvinar, and leaving a blank intervening space, which is painted red, between them and the start of the mouldings of the cymatium. As regards the mouldings of the cymatium at that spot I was at first surprised to find that the remains of them worked out unmistakably as the tongue and dart instead of egg and dart, whereas on the front of the cymatium we had every reason to expect the usual bold eggs and darts. In our restoration we have, in fact, employed two pieces of egg and dart on the front [fig. 6]. We found also two parts of the angle anthemion which had been employed to connect the rim of the rosette with the cymatium. The leaves issue from a sheath apparently as in the previously restored capital, but are smaller, and have the addition of a dart between them.

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* Journal, Vol. III., 3rd Series, 1895–96, p. 41.

We have several fragments of abacus with a flattened egg-and-dart moulding in contrast to the concave leaf-and-dart moulding on the abacus of the previously restored capital. We knew exactly the height and position of the abacus, but we have altogether failed in finding any indication of how it was connected at each end with the outer rim of the rosette. Possibly a palmetta or anthemion had been employed to occupy the acute angle, as at the angles lower down. But that is a point on which we are open to advice. Otherwise I think our reconstruction is fairly justified by the remains, slight though they be.

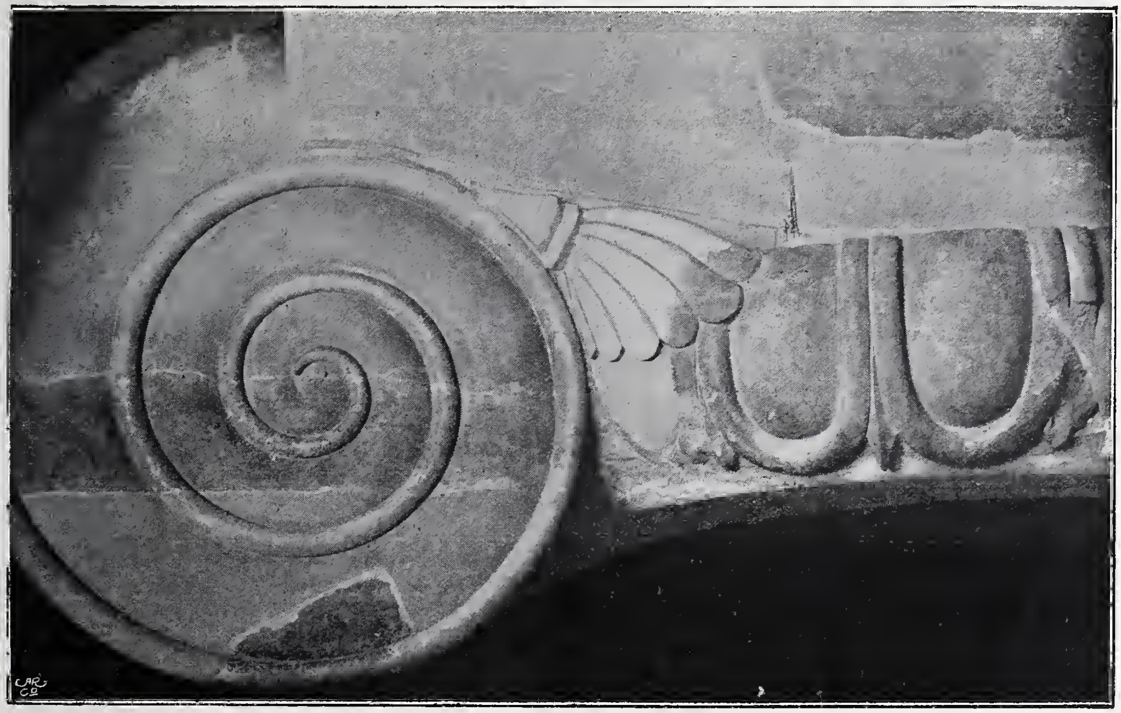

FIG. 5.—ARCHAIC EPHESIAN CAPITAL, IN THE BRITISH MUSEUM.

As you see, the rosette was incomplete. We were not sure for a time how closely the leaves and spikes had touched on the outer rim. But that difficulty was practically solved by finding a fragment of the outer rim which shows a fillet and very deep cutting at the inner edge. From the marks of the tools this cutting had not been easy to work. The reason must have been the close proximity of the points of the leaves and spikes. This fragment of rim presents on the outer face, as usual, a double moulding with a sharp groove between. Into this groove has been pushed a thin strip of lead, which first has been doubled back. The doubled edge is at the bottom of the groove; at the top the two edges of the lead are brought close together and hold in the manner of a vice a very fine thread of gold. I do not think there is any other instance of this among the remains of Greek architecture. But there is a passage of Pliny (*Nat. Hist.*, xxxvi. 98) where he mentions as still existing in his day at Cyzicus, on the coast of Asia Minor, a shrine on which a fine gold thread had been inserted in all the joints of the marble, so that the interstices shone with the finest hair-like threads. His words are: "Durat et Cyzici delubrum in quo filum aureum commissuris omnibus politi lapidis subjecit artifex. . . . Translucent ergo juncturæ tenuissimis capillamentis." At one end of our fragment a groove has been picked across the front beading, as if for the lead and gold to be returned there to the front. That, I think, shows that our fragment must have come from a point where the outer rim of the rosette came in contact with the abacus or with the cymatium. The latter position seemed to me the preferable, as the gold and lead would then be quite visible, and, besides, just at that point we have a small part of the cymatium moulding still remaining on the large fragment of the pulvinar.

As you see, the leaves of the rosette undulate gently—that at least is unusual. There must be some reason for it, and I think the reason is to be found in the formerly restored capital with its convex canalis, if we may employ such a contradiction in terms. There the convex canalis gives the impression of two waves circling round the centre. It is true the rosette shows only one wave. All the same, this undulation of the leaves seems to me an intentional compensation for the effect observable on the other capital. The surface of the leaves has the appearance of having once been coloured red. And it is quite evident from a number of fragments which we have from the archaic capitals that much red or vermilion had been employed on them. We have red leaves with a white edging, and others white with red edging, to give only the principal instances. The boss in the centre has been broken off, so that we cannot say now whether it had been originally covered with a metal ornament or otherwise decorated.

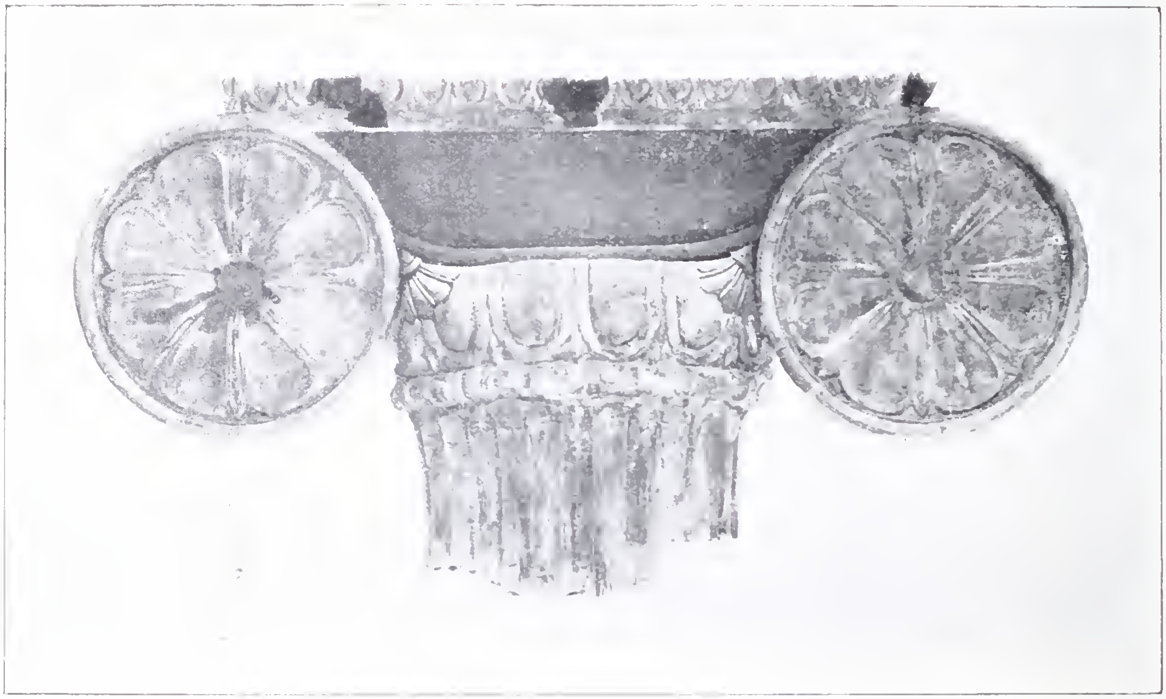

FIG. 6.—RECONSTRUCTED CAPITAL OF ARCHAIC TEMPLE AT EPHESUS, IN THE BRITISH MUSEUM.

That is all I need say of the present capital. But there remain two fragments from the same archaic temple at Ephesus, which also, I think, must belong to a capital. The one shows the head of an ox in very high relief, the other part of his back and haunch, with the tail thrown up over the haunch as we often see in archaic Greek sculpture. But how these two pieces are to be combined into a capital is not yet clear. We have in the Museum a huge capital from Cyprus, in which the heads and shoulders of two oxen were employed to support the abacus. The idea was natural enough where strength and patience were to be suggested. I would not be surprised to find that it had existed in Greece as early as the Mycenæan age—that great age of naturalism in art and handicraft. Therefore we must guard against too readily accepting this idea as having come westward to the Greeks from Persia. As it happens, there was found at Ephesus some years ago, by the Germans, an Ionic capital, having the forepart of an ox or a bull projecting on each side from the middle of the pulvinar. But that capital, to all appearance, is of a comparatively late date. It does not directly help us, so far as I can yet see. Its existence, however, is a proof that the use of bulls or oxen in Ionic capitals was known at Ephesus. What we want to learn still is how the architect of the archaic temple managed to introduce a whole bull into his capital, or perhaps, rather, two bulls lying back to back.

If I am right in assuming that these two fragments belong to capitals, we have thus at least three types of capitals from one and the same archaic Ionic temple. We have also at least three types of bases, and, considering how few the fragments are that have survived, no one can say but there may have been more varieties. Still less would anyone venture to say how these various types of columns had been combined in one building. Speaking of the later temple, Pliny states that thirty-six of the columns were sculptured. We now know that the older temple also had sculptured columns, whether the same number or not. Presumably in both cases the sculptured columns were placed on the two ends. In any case, those enriched columns would be capable of carrying off some variety in the capitals. The plainer capitals, such as the one previously restored, could be assigned to the sides. The moral of all this is that if the architects of the classical revival in this country many years ago had been aware of the inventiveness of the early Greeks, the aspect of some of our towns would have been different.

I have only one remark to add. The workshops of the Museum are not altogether unknown to members of the Institute, and those of you who have visited them are aware how much has been due to the foreman of the masons and the well-trained men under him in the various restorations and re-arrangements that have been made in the Museum during the past fifteen years. To them on this occasion I am very glad to acknowledge my indebtedness.

DISCUSSION OF DR. MURRAY'S PAPER.

Mr. John Slater, B.A.Lond., *Vice-President*, in the Chair.

Mr. HUGH STANNUS [*F.*], at the invitation of the Chairman, exhibited and described a number of interesting slides, some of them from photographs lent to him by Mr. Spiers, representing the Athena Nikè, the Erechtheion, and other buildings referred to in Dr. Murray's Paper.* Coming to the main subject, he said he had seen that day in the Museum the archaic capital from the temple at Ephesus, as reconstructed by Dr. Murray, and shown in the hastily-taken photograph [reproduced in fig. 6]. He thought Dr. Murray had clearly proved his case; there was nothing at all left uncertain about it. The rosettes were very interesting indeed—something quite different from anything before seen in Ionic work; but when they considered that this was in a temple in Asia Minor, not many miles from Assyria, where the "Assyrian rosette," as it was termed, was so much used in decoration, it seemed perfectly clear that it came over from Assyria across Lydia to Ephesus, where it was found. At the British Museum they had the base of a column from the temple at Ephesus: the inscription recorded that King Crœsos (of Lydia) dedicated it; and it was very natural that he should have been influenced by the Assyrians, and should have handed it on to the Ionic Temple at Ephesus. The capital, which was so much richer than the other capitals, in which volutes were used, was rather interesting, for, comparing it with the perfected Greek Ionic capital, they would see how the Greeks exercised that wonderful artistic power of selection. The Greek decorative mind was distinguished, he ventured to suggest, not so much by creative as by *selective* power. A diligent search, he believed, would bring to light the prototype of almost every piece of ornament the Greeks ever used, but the great merit lay in their power of keeping the grain and throwing away the chaff. That capital was probably given them by King Crœsos, or some other king, for it was well known that many of the columns in the Greek temples were the gifts of kings, and therefore presumably were different in design according to the whims of the kings, subject to the general approval of the architect. The student in these matters would perceive how, when the Greeks came to work out their perfect Ionic, they did it by omitting a great deal of this useless and untasteful enrichment. They all felt very much indebted to Dr. Murray for coming among them and giving them the benefit of his experience and of this experiment, told in so charming and modest a manner, and this was evidenced not least in the way he had acknowledged the help he received, in the acute observation of minute technical detail by the intelligent workmen who worked under him, probably under his training, and therefore presumably men who knew the result to which these observed technical details pointed. In conclusion, he begged to move that the very cordial thanks of the Institute be tendered to Dr. Murray for his Paper.

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* These included :—
The W. view of the Akropolis taken from the Pnux.
The W. view of the Nikè Bastion and Temple (from a negative by the late Ernest G. Spiers).
The Plan of the Propulaia, &c., showing the position of the Nikè, in reference to Dr. Murray's remarks.
The E. view of the Nikè.
The sofit of the N.E. corner of the Portico, showing the corner capital, &c. (taken by means of a reflector).
The N. Portico of the Erechtheion (E. O. S.).
The sofit of the N.E. corner of same (reflector).
The N.W. corner capital of same, as it now stands on the ground.

MR. R. PHENÉ SPIERS [*F.*], F.S.A., referring to some of the slides shown by Mr. Stannus, said that the original photographs were taken some years ago by his brother, and after his death he had caused slides of them to be made, and they were exhibited a year or two ago at one of their evening meetings, when Mr. Penrose was good enough to explain them. With regard to the capitals brought before them by Dr. Murray, particularly that from Ephesus with the rosette volutes, they may have noticed that what was called the egg and tongue, instead of projecting forward, receded at the top. It had long been his idea that the egg and tongue, or the egg and dart as Dr. Murray called it, was not copied from the painted decoration on the echinus moulding of the Doric capital, but was altogether an original conception, derived from the overhanging petals of a flower. The extremely interesting terra-cotta capital from Gela in Sicily clearly showed that. The egg and tongue as represented in the centre of the capital from Gela, was a long pendent leaf. The capital which Dr. Murray restored some years ago (fig. 5) showed to a certain extent the leaves falling back, and there was another capital close by it in the Museum, which came from the Temple of Apollo at Naukratis in Egypt, in which the leaves were carried back at the tip underneath the volute-block. It seemed quite evident, looking at the capital from Naukratis and at the other examples, that the egg and tongue was really a representation of the ends of the petals of a flower hanging over. With regard to the capital from Bassæ, in the first publication by the Dilettanti Society no abacus whatever was shown, and in Blouet's work none was given. Looking through Professor Cockerell's drawings the other day, he noticed that in the first drawing the abacus was not indicated, but that in subsequent drawings he seemed to have tried to see how an abacus would come in. He should like to ask Dr. Murray whether there had ever been found any trace of an abacus, or whether it was evolved by Professor Cockerell in order to align with the abacus of the Corinthian capital which placed it in the centre. Professor Cockerell must evidently have felt that some more stable support was required, or he would not have indicated the abacus above it. One would like to hear Dr. Murray's opinion as to how the angle capital of the archaic temple at Ephesus was arranged. As the abacus of the Ionic capital of the Erechtheum was square there was no difficulty whatever; but when, as in the case of the early archaic capitals at Ephesus, the abacus was almost twice as long as its width, it became a very difficult question whether they did attempt at that time to form a canted angle. He had much pleasure in seconding the vote of thanks to Dr. Murray, not only for his Paper, but for his long labour in connection with these pieces of columns which he had put together and described.

MR. PAUL WATERHOUSE [*F.*], M.A.Oxon., said he should like to be allowed to ask a question —which was really an amplification of Mr. Spiers's question about the abacus of the capital with the rosettes—another aspect indeed of the same question. One always had a kind of impression that one of the main differences between Gothic architecture and Classic architecture was that the Gothic people obtained projection by their capitals and the Classics did not. He confessed he did not understand the nature of that immense lateral projection on the reconstructed capital that they were shown (fig. 6), and he should like Dr. Murray to be kind enough to tell them what projection that abacus had from front to back as compared with the lateral projection—whether indeed it did project forward to any considerable extent, or whether, as appeared in the photograph, it was practically on the same plane as the upper surface of the shaft. He noticed that both the abaci shown were fragmentary and were restored more or less conjecturally, and he should like to ask Dr. Murray whether he was absolutely certain about the length of the abacus in each case. Dr. Murray alluded to an abacus in the first case, that of the temple of Nikè, but apparently in the photograph the abacus was missing. If it be proved that the abacus in one or both these cases had that exceptional length it would seem to introduce a new element into our ideas of a very radical feature in classical architecture. He supported very heartily the vote of thanks to Dr. Murray.

Professor BERESFORD PITE [*F.*] asked if Dr. Murray would kindly give the date that he would assign, approximately or not, to the previous temple at Ephesus to which his very interesting restoration applied; and if he would at the same time indicate the relation of that date to other known Ionic capitals, the position of this very interesting rosette in the old controversy as to the origin of the volute and its relation to Persian or Assyrian art would perhaps be interesting. It was a very important matter to be able to connect the designer of the Temple of Nikè with the designer of the Parthenon. Our conception of the Greek architect now included the refined and perfect Ionic as being the product of the same hand, the same mind, as of the Parthenon order, and that Callicrates was at work on the Parthenon shortly before he was at work on the Temple of Nikè was an exceedingly interesting fact, and replaced the hazy idea that the Parthenon was alone the refinement of a generation—the cream, so to speak, of an epoch of Doric art, and that the architecture which was represented by the Erechtheum and the Temple of Nikè belonged altogether to a different school and chain of ideas. On the inscription tablet which Dr. Murray referred to as fixing the date and mentioning the name of the architect, though he noticed that there was a little missing link, which Dr. Murray indicated, of the construction of the temple having been possibly a little later than that indicated on the tablet, he should like to take the risk and jump to the pleasant conclusion that we had two very interesting illustrations of the work of a highly accomplished Greek architect of that period in the Temple of Nikè and in the Parthenon.

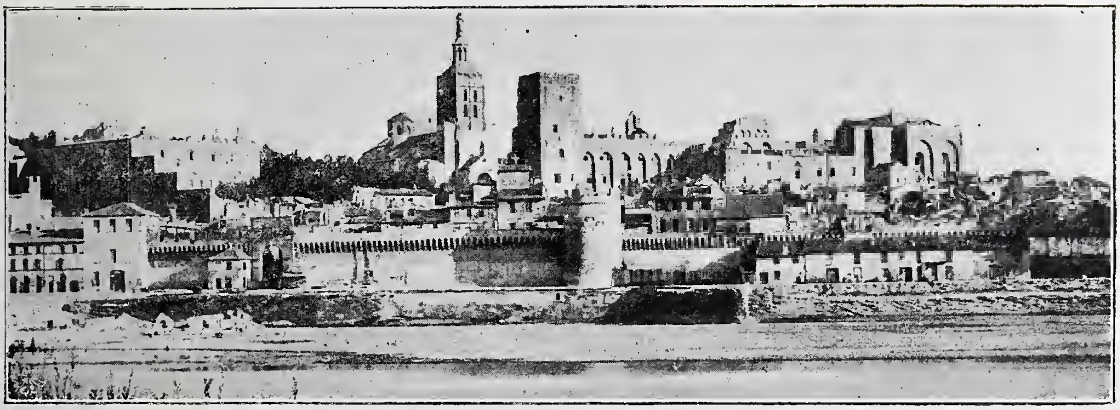
Mr. W. D. CARÖE, M.A., F.S.A. [*F.*], said they all had a fair idea of the actual size of the capital of the temple of Athena Nikè, but not of the other two capitals. Would Dr. Murray kindly give them an idea, roughly, of the dimensions of the terra-cotta capital and of the capital from the temple at Bassæ?

Mr. WM. BRINDLEY, F.G.S., said that the chief lesson taught by Dr. Murray's Paper and illustrations was the life and freedom with individuality thrown into this classic archaic work. The Dilettanti Society in their publication some years ago gave a number of unique examples. Tatham, and Count Vogüé with his researches in Syria, also showed varieties of the treatment of early capitals. It seemed to him that these Ionic capitals were masoned out to the same contour of masses as regards light and shade from a distance, and then the sculptor had a certain liberty of action granted him by the architect, which gave life to the work. Similar freedom was found in the capitals of the Gothic styles. It was very different with our classic work of years ago, when everything was done by a three-measure system, the capitals being copied mechanically from a given example, so that they lacked the vigour of life. The Renaissance men of Italy, who derived their inspiration from classic examples, never became servile copyists, but rivalled each other in their freedom of treatment, producing work full of life and interest, which retained its charm to the present day. The same might be said of our Elizabethan Renaissance. The two Ionic capitals appeared to him specially designed to receive colour. The kind way in which Dr. Murray always spoke of the help rendered by his workmen was very pleasant.

Mr. E. W. HUDSON [*A.*] said that the Institute Journal was gradually collecting from the hands of Dr. Murray and others necessary information towards the elucidation of that most interesting problem, the origin of the Ionic volute. There seemed to be so many opinions as to this origin that he supposed it would be impossible at present to get a complete *ex cathedrâ* opinion upon it. They had the univalve shell, the lotus, and the ram's horns—which latter might be certainly regarded as the emblem of strength, power, and sovereignty; they had also the whorls of ancient goldsmith's work, and different things of that kind, all of which seemed to be suggestive. Mr. Spiers seemed to see the suggestion of a flower in the terra-cotta capital from Sicily. He believed the ram's horn to be the most likely idea; in some Etruscan examples from Vulci at the British Museum the complete ram's head was sculptured at each angle, and in the middle a female head in high relief. The latter may have suggested to Vitruvius the idea that the Ionic order was based on the female form, as that of the Doric on the male. But this was only a poetical fancy, no doubt. It seemed unlikely that it was devised for the first Temple of Diana at Ephesus, in spite of the legend. If they could get a diagram of collected archaic capitals chronologically arranged, it would give the student a view of the different steps by which these beautiful results had been arrived at, and tend towards solution of the problem. He had much pleasure in supporting the vote of thanks to Dr. Murray, and he thought they were also very much indebted to Mr. Stannus and Mr. Spiers for the other views shown them.

The CHAIRMAN, in putting the vote, said he was interested to find that the temple which in one's schoolboy days was always heard of as Nikè Apteros, the Wingless Victory, probably took its name not from Nikè, but from the condition of the temple itself. It must have struck everyone who listened to Dr. Murray what enormous care and pains must be bestowed on the reproduction or restoration of such work from old classical buildings as that presented to them that evening. Dr. Murray had told them how he was fascinated by certain pieces of stone which had been lying at the Museum for a very long time, but it was only by most constant observation and study that he had been able to put these pieces together to form a whole, and show how they applied to the column. He should like to ask Dr. Murray one question about the rosette capital. The piece from which he took the reproduction showed no sign of any connection between the mouldings which went round one rosette and the mouldings round the opposite rosette, in the way that the Ionic volutes did. Had no pieces been found which would enable Dr. Murray to give an idea whether there was any such connection? He was quite sure that the Meeting would also accord its thanks to Mr. Stannus for his kindness in bringing the slides which had shown them very beautifully the building on the Acropolis and the temples of which Dr. Murray had been speaking.

DR. MURRAY, in replying to the questions put during the discussion, said that the point raised by the Chairman was one that had given them great difficulty. They had only a piece of the moulding which ran above the eggs from one rosette to the other; but they did not know how it impinged on or grew into the circle or rim of the rosette at both sides. Neither did they know exactly how the moulding under the abacus joined on to the rim of the rosette. The moulding which ran from rosette to rosette immediately above the eggs must join with the anthemion in the corner somehow, but how that might work out they did not yet know; when they came to fix the original pieces of the cymatium, they would probably get some new light on such points. As regards the Bassæ fragment, it was quite clear that there must have been an abacus. If they looked very carefully at the capital itself in the Museum they would find there a set off which could not have been anything but an abacus. As to the question whether among those archaic Ionic capitals an angle capital had ever been found, he did not know—he did not believe one ever had been; but what had not been found to-day might be found to-morrow! As to the length of the abacus of the new capital, that certainly struck him as excessive, but when they worked it out he believed they would be able to reduce it—they certainly would be able to reduce it about two inches. As to the projection of the abacus, there was no question at all but that it was, to use Mr. Waterhouse's own words, on the same plane as the top of the shaft. The date of the temple was certain: the columns were the gift of Crœsus, about 560 B.C. Then as to similar capitals, they had, of course, the fragment in Samos, shown in the Dilettanti Society's *Antiquities of Ionia*, and closely resembling the other archaic capital with the Ionic volutes and convex canalis. Another instance, with exactly the same characteristics, had been found at Locri, in Southern Italy. As to the dimensions, the small terra-cotta capital (fig. 1) was merely a model, about a foot in width. In the new capital from Ephesus the spread from the outer edge of the rosettes was, he thought, 9 feet 8 inches. That was some 3 inches in excess of the volutes of the former one, and the shaft was certainly greater in diameter than the former one by about 3 inches. That was what led him to suppose that these rich capitals with the rosettes had probably stood in the front, that the sculptures on the lowermost drum were also on the two ends, and that these very much enriched bases and lowermost drums would carry off some unusual richness on the capitals.



ARCHITECTURE AMONG THE MODERN ARTS.

By PAUL WATERHOUSE [*F.*], M.A. Oxon.

Read before the Manchester Society of Architects, 14th November 1901.

"OMNIS ENIM DOMVS APPARATVR A QVOPIAM; QVI VERO CONSTRVXIT HÆC OMNIA EST DEVS."

THERE are modern philosophers who have allowed themselves the luxury of defining "art." A Ruskin, now and then, or a Lessing has arisen with some device for comprehending in words the incomprehensible. Now, definition of art is, I suppose, impossible, for the very simple reason that art can only be satisfactorily defined as the indefinable. The difficulty matters the less in that a definition, if found, would be useless. Were language never so adequate, that elusive subject could only be defined in terms that would be unintelligible to all save those who already knew the meaning of that little three-lettered word "art." And perhaps there is another plea on which these word problems should be forbidden as unprofitable. The cause of art itself discourages such exercises of the brain; for it would seem that the age or nation which has leisure and wit for these sophistries has not necessarily the skill for the doing of the thing itself. Of art it might almost be said that to be recognised is to be moribund, and were it not for my suspicion that the Latin word *ars* never meant in any Roman's mouth what we mean by art, I would say that there was supreme truth in the motto *Ars celare artem*—Art consists in the concealment of itself. Which paradox is but a paraphrase of the certain truth that the more art is conscious the more risk it runs of being untrue. And this is a hard saying for these latter days of ours, which beat the world for consciousness.

In face of these difficulties I will make no attempt in this Paper at a further definition of art. It is with architecture, a particular phase of art, that we have here to deal, and even in architecture's case the question of definition is almost as difficult and almost as futile. To define architecture, as some have done, as the art of building well, is, truth to say, ridiculous and rather pedantic. It is akin to those school-room definitions of the gentleman which make him coincide with the good man. Goodness in a gentleman is almost an essential, but it is by no means the qualifying or sole attribute. There are plenty of good men of our acquaintance who are anything but gentlemen; and we know—alas! how well we know!—that there are some excellently constructed buildings in this land of ours which lack all the characteristics of good architecture except an undesirable stability. Undoubtedly there have been phases of architecture, perhaps indeed there are existing buildings, in which mere goodness of construction is coincident with architecture; but such coincidence is more accidental than essential, and is perhaps less universal in our days than in days past. Such an identity of good building with good art implies an intense simplicity of architecture; and, strangely enough, so far from its being possible to state that the older an architecture is, the more nearly do its excellences as architecture coincide with the mere virtues of construction, we almost find the opposite to be the case. If we omit, for our purpose, consideration of the Egyptian and Oriental styles, and go back merely to the earliest architecture of historical Europe, we are at once faced in the art of Greece with a set of phenomena which entirely give the lie to the pedantic and untenable theory that good architecture is merely good building. You may say if you will that there was simplicity in Greek building. There was, but it is simplicity of a most complex kind. Greek architecture is in fact artificial in a high degree, and it is one of the intrinsic marvels of that architecture that its intense intellectuality has not had power to damage it as art. All that modern research has done in the investigation of Greek building methods has gone to prove that the simple results of Greek art were the result not of simplicity in the creators, but of an almost extravagant continence and abstinence. *Μηδὲν ἄγαν*, "excess in nothing," was the motto of Greek life, and, though not openly so expressed, was also that of Greek æsthetic; and so complete was the Greek's horror of artistic intemperance that he enjoyed a sort of intoxication of reserve.

Now I have said that consciousness in art brings risk of ruin; how was it then that this elaborate simplicity of the Greek did not end in failure? I think the answer may lie in this consideration, that, full as the performance is of this intellectual restraint, it was, I verily believe, a thing that was not talked about. It existed, it flourished, it was a vital force, but it was not written of or spoken of. I have re-read lately Aristotle's work on poetry, and full as it is of minute analysis of the poetic craft, and incidentally of other crafts, it is as crafts and not as arts that they are dealt with and thought about. Is this a fair distinction? I think it surely is, and I shall hope to prove it; but I take leave to glance, before going back to the Greeks, at the Romans, the men of the Renaissance, and those strange folk that wrought the beauties of the Middle Ages.

It is the fashion in handbooks on architecture, and in the class-rooms of examination coaches, to deal roughly with the Romans, and to accuse them of insincerity, of blind copying, and of a supposed crime in making their mouldings of segmental instead of parabolic curves. Now truth as a criterion of worth in architecture is a very fallacious test, for reasons that I need not go into here further than to point out that a certain measure of deception, or rather suggestion, is an admitted element of all recognised architecture; but I think that most students who are real students, and not mere gleaners from handbooks and pupil-rooms, will allow that there was art in Roman work, real art, as we understand the term, though the word "art" was, I believe, never used by the Romans with our meaning. The Roman arcade, as seen in the Colosseum; the triumphal arch, as seen three times in the Forum, the Roman Basilica, the Roman bath; the pilaster, the dome, and perhaps even the Corinthian order are proofs, if proof be really needed, that Roman architecture was an art and not merely a science or an archæology: yet you may search in vain in Roman writers for any indication of an understanding of art, as we use and interpret the term.

With the men of the Renaissance art is even more conspicuous, and even less tangible. You may say, if you will, that Bramante and Alberti did what they could to revive Roman work; but if you dare stand in the church of St. Francis at Rimini, or outside the Cancelleria at Rome, and say that these buildings are mere scraps of archæological resurrection, I will admire your courage, but will give you no credit for knowing art when you see it. The Italian Renaissance breathes the very breath of art, as perhaps no other period of human enterprise has ever breathed it; but did these men talk or write of art as we talk and write of it in the magazines and reviews, or even in County Council lecture-rooms? Emphatically no.

Again, what of the masons of the great Gothic days, did they know what art was? Not they; they were far too busy in producing it, and far too blind in their production, to have a notion of what art means to us. The attributes of the mediæval builder were, primarily, skill of craftsmanship; secondly, traditional knowledge of a closely academic and keenly conservative nature; and, together with these, piety, Christian faith, earnest purpose, simple pride. That art was present or resultant in his labours there can be no doubt, but that a mediæval mason could have given you or me any idea of the qualities which went to make the real greatness of the cathedrals on which he laboured I most sincerely doubt. Could we meet a fourteenth-century man in a fourteenth-century church, I feel confident that he would confine his energies as showman to the portraits of the Devil on the undersides of the misereres, or to some minute novelty in chamfer stops; he would probably have no more to say on the real art of mediæval architecture than would a modern verger. I may be wrong in this surmise, but if I am right, and I have my reasons for thinking that I am, we are here face to face with a strange fact in the history of appreciation.

There is a man in the hospital at Bruges who spends his days in showing to visitors the paintings by Hans Memlinc which are the great glory of the place. He hands you an eyeglass, and begs you to note that the fur in one of the pictures suffers no loss of truth to nature in being magnified. This strikes one as a bathos in art criticism; but the man of Bruges stands as a critic exactly where Aristotle stood some seventy generations ago, when he admitted that the pleasure derivable from painting lies in the *recognition* of the objects depicted. He allows that if a man were introduced to a picture of some object which he had never seen he might draw some enjoyment from the colours and the technique, but I think it is clear that the view he takes of painting is that its power to please depends upon and is proportionate to its verisimilitude. Certainly he declares that the multitude take their pleasure from it in this way, and though he implies that the masses differ from the *conoscenti* in their power of appreciation, I think it evident that he views the difference as one of degree only, and he even seems to suggest that the more cultivated critics only draw their deeper pleasure from a deeper sense of this quality of photographic accuracy.

I do not press this point, because, in the first place, it is foolish to criticise Aristotle, the "master of those who know"; and secondly, because Aristotle himself probably saw further and deeper than the folk whose æsthetic emotions he here describes; but the point I want to bring out is that all down the ages that preceded our present age it would seem that art, as we understand the term, has been a sort of by-product of craft, not its recognised aim. It is in many ways a surprise to me that Aristotle, whose philosophy, for all its uncompromising positivism, could recognise the divine in every aspect of nature—who built up the splendid dictum that all things have in them some touch of the God, should not have seized and defined this spiritual growth which seems, as it were, to spring, self-created, from the labour of man.

Do I make myself clear? The marvel that I set before us is just this. Art till our present age seems to have lived among men, cherished, beloved, sometimes recognised, but never named. Τέχνη, the Greek word, conveys no real equivalent to the thing we mean. It is no more than craft—the workmanship that is implied by our adopted derivative "technical." And yet art had a happy home in Greece. And *ars*, the Roman word—does that come any nearer to our meaning? I think not. It also carries with it only the significance of skill with hand and memory, with eye and brain, but no real hint of that spiritual phantom which to-day we hail under art's name.

You will have guessed that I am leading up to a melancholy conclusion—the conviction that our generation, which has, so to speak, discovered the very bacteria of genius, has advanced to so high a pitch in the philosophy of æsthetics, and has so boldly hedged about with words and definitions that holy essence which older ages could cultivate but dared not name, that we are in danger to have paralysed our power of bringing art to birth. Art, I have said, withers when it is conscious of self, and the artist who can speak in logical terms of the intangible, unspeakable essence which is his only title to success would seem on such grounds to be within distance of permanent failure. Let us hope that there are conditions in our own art, perhaps in our circumstances also, which make so horrible a contingency avoidable. I think there may be, and in this hope I would draw attention to two considerations.

I. Our present age is, above all other ages, the age of expression.

II. Our art is of all the arts the one in which the critical faculty lies nearest to the creative.

If we examine these two positions, and if we find some truth in them, we shall, I trust, realise that, whatever may be true of other arts in these days of over-wisdom, there is hope for a great well-being of architecture.

I.

Our age is an age of expression. Possibly a recognition and exposure of the inner and deeper mysteries of art such as we indulge in to-day would have led in other ages to that self-consciousness which, as I have said, is the sure death of art. But I am inclined to think that this power of expression is in a sense the mission of our age, and that it is a function which by some means is meant to be made a part of, rather than an enemy to, our production as artists. Our literature is full of proof of the existence of this mission. Compare, if you will, George Meredith with Jane Austen, both supreme novelists; compare Maurice Hewlett with Sir Walter Scott (this is a rather extravagant compliment to the modern man); compare Browning with even the keen-eyed Wordsworth; compare Stevenson with Sterne, and you will see at once by what an immeasurable distance the writings of to-day, and of the close of the last century, have in one aspect surpassed even those of the generation that immediately preceded them. This is not a progress which has gone gradually along the path of the centuries. In fact, many a writer of the remote past had more power of expression, and more wish to exercise it (which is a different thing), than authors of more recent date. Horace, for example, and Virgil were able and ready to lay human nature out in words quite as clearly as any Elizabethan (except Shakespeare), and Shakespeare could do more in this way than perhaps any pre-Victorian writer. But the advance made in this direction, particularly in the successful attempt to expose small traits of human character, places our own time infinitely ahead of the whole world of previous literature. I have mentioned some examples; there are hosts of others available, American as well as English. There have been links in the chain, no doubt—the dawn was not wholly sudden—and such names as Thackeray, Charles Lamb, and possibly (only possibly) Dickens, occur to one as representing the pioneers of this new realism; but even they, for all the untouched grandeur of their position in literature, are left behind by some of the small fry of to-day in this particular matter of expression. I am not meaning that the word-power of to-day is essentially greater than that of our grandfathers, though I believe even that to be true in a way, but we have the wish and sometimes the ability to lay hold of, and set forth in words, things, thoughts, emotions, human habits, and little human happenings which the men of the past would never have attempted to handle, or perhaps even to notice, as being pertinent to the drama of humanity.

Now, one result of this state of advancement in literature is the production of an extreme fastidiousness and a hatred of commonplace. Where minds are so eager to rival one another in fresh fields of descriptive enterprise, they and their audience become intolerant of ideas or presentments that are in any degree hackneyed, and, what is more, they consider as trite what in a preceding age was at least tolerable if not novel. Now all this spirit which is abroad in literature is abroad also in other arts, and undoubtedly should have its counterpart in our own art of architecture. The novelist, the poet, the painter, even the musician of to-day must be alert, terribly alert. By no means is novelty pure and simple the one thing needful; the man who thinks that (and there are very many who do think it) makes a glaring mistake. It is an age of expression and of thought: that thought and that expression are not only to have art as their theme, they are to be an integral part of that art—and here it is that architecture finds herself carried along by the wave of the age. The architects of our day are to be not merely critical of architecture and philosophic therein, but their very *work* must be full of thought, full of study, full of expression. There must be between our work and the work of our grandfathers the same gap that there is between the literature of to-day and that of the Georges; and this surely is the direction in which architecture will be saved from the dangers with which consciousness besets art—the consciousness is to have architecture, not for its theme, but for its very embodiment. Let me explain. Almost every past age, up to the middle of the nineteenth century, could point to a particular style in which it was natural for its architects to work, or rather the style would not be pointed to, it would be adopted as a matter of natural procedure and without choice; with us, however, the mere fact that the selection of a particular manner is one of the preliminaries of any particular design at once marks off our designs as being in a different category of mental exercise from those of the past. I am by no manner of means intending to suggest that such a process of selection is gone through deliberately or consciously, still less am I suggesting that any good work of our day is produced in the form of an archæological essay; but I am aware (and most people will allow the truth of this if they are honest critics) that all noble architecture has its roots in the traditions of recognised style, and is in a measure academic. This is specially and emphatically true of all monumental and public architecture, and since there are available to the modern architect more than one set of traditions or schools of work on which he may base his design, it follows, even if he be a man of close and exclusive leanings to a particular method, that he is generally more or less aware of the fact of having made an academic choice.

There is more than this in the modern position. An architect's work to-day must be full of knowledge, full of learning. Endless puny witticisms are directed at our examination system, and a lively school of critics are prepared to expose the iniquity of studying the history of architecture as a preliminary to architectural production. They are welcome to their laugh at our expense, but they are quite wrong. Our age is no longer one of archæological architecture, but that is the very reason why the study of our learners must be both deep and widespread. To be trained as a mediæval architect in a vernacular style was a comparatively simple thing; to be trained as an eighteenth-century architect in the Orders was solemn enough, but also a comparatively simple matter; but to be let loose as an architect into our modern world of architectural freethought is an awful responsibility, and no man can consider himself equipped for honourable success in this dangerous sea of cross-currents without a sound knowledge of the inner meaning and great history of its conflicting and blending elements. To be rudderless and sail-less in such a whirlpool is to give proof of being a fool or a madman.

The madmen, to be sure, come to port now and then with a fantastic cargo, but the fools mostly go to the bottom. The men who sail the best will be found after all, I suspect, to have some old lore in their heads, some old chart in their locker, and some ancient pole-star to steer by; and with it all they will have that ready wit that sees (all the better for its old-world ship-craft) the latest menace of the clouds, and the oncoming of as yet unencountered waves.

My inference, then, under this aspect of the case is that in an age of expression such as our own, architecture, so far from being choked or even shackled and weakened by this tendency towards ever deeper insight, must, so to speak, take a share in it. The modern expressiveness finds its development in all the arts as well as in literature; architecture must be expressive too, and effective expression in architecture no more implies fantastic ignorance than in any other art. The absence of a vernacular canon of architecture, and the apparent abandonment in the present day of strenuous and inelastic obligation to any particular antiquarian manner, while freeing the exercise of genius, imply no diminution whatever of the obligation to study—quite the reverse.

II.

And now for a glance at the other position which I ventured to lay before you. I suggested that of all the arts ours is the one in which the critical faculty lies closest to the creative. This, if true, will be found to be another consideration which will save architecture from the usual dangers of overconsciousness in art. It is often said that a critic is a man who has failed in some branch of literature or art. The measure of truth in this unkind retort lies in the fact that the critical intelligence is no necessary concomitant of the executive; and indeed such is the narrowness of man's capacity that there seldom seems room in one being for the development of both. You will perceive at once that the conditions of our art very largely remove the danger of this antagonism; nay more, they bring the critical faculty into so close a union with the productive as to make the two almost identical. For what after all is the essence of our performance in architecture but the application of taste (which is the critical energy) to the physical operation of building? The antagonism of the two faculties in a painter's or sculptor's case is very largely due to the fact that one is an exercise of the brain, the other of the hand and eye, and it obviously does not follow that the man who excels in technique necessarily excels in the development of trained perception. In architecture this contrast is absent. In so far as design is a matter of skilled draughtsmanship, the trouble might appear in our case as in others: but the true faculty of design is not a matter of pretty drawings, and therefore, happily, we have no cause to worry ourselves over this rather metaphysical consideration. The mere fact that the indiarubber is the architect's best friend will convince anybody who may have doubts on the subject that successful architecture (I mean successful in the noblest sense) is produced largely by the application on the part of the architect of his own critical powers as an artist to his own schemes as a constructor.

Were it not a very inadequate definition, architecture might be described as the application of taste to construction. The inadequacy of the definition would lie in the word "taste"; and I think it may be worth our while to devote a part of this inquiry to an examination of the nature of architectural taste. Such an examination can only lead to a heightened appreciation of the depth, breadth, and sublimity of the splendid art in which we are privileged to labour.

Taste, as we know, is nothing more than the choice of the individual, and there is therefore a sense in which every person may be said to have taste on every subject; but practically, of course, we limit the use of the word both as to subject and degree, restricting it in sphere to those matters which are kindred to art, and in degree by certain canons which are practically indefinable. The question of what is good taste and what is not is proverbially outside disputation, and we cannot even say that that man's taste is the best which coincides most nearly with the opinion of the majority. The counting of heads is no good in matters of art, and even the owners of the heads will sometimes admit that in questions of taste they prefer other people's judgment to their own. This is a remarkable state of affairs when you come to think of it; and the acceptance without challenge by a large proportion of humanity of a standard of valuation which can neither be appraised nor even logically explained points to the general recognition of something in art which is acknowledged to be outside the sphere of normal intellect. Mankind on the whole is humbler and nicer on this subject than you would ever have expected.

But there is a curious exception to this rule, and the exception centres in architecture. Two facts are to be observed in this connection—remarkable facts, in that logically the existence of the one ought to make the other impossible. The first is that though there is such a thing as innate natural taste in some branches of artistic valuation—such, for instance, as the choice of colours and the power to judge of colour harmonies—architectural taste, apart from architectural training of some sort, is almost impossible. The second fact is that in spite of—probably in ignorance of—this first consideration, architecture, of all the arts, is the one on which the general public feels itself qualified to hold and express its opinion without any study whatever. We need not concern ourselves much with this second fact; it often amuses us, it often saddens us, and it often makes us feel strangely lonely; but the other matter is one which concerns us very deeply. Wherever one looks at modern architecture and finds it at fault, the fault lies almost certainly in ignorance. To say that happy achievement in architecture lies in knowledge would perhaps be untrue, but there is abundant truth in the converse, that ignorance in architecture is at the bottom of every sin. It goes without saying that an architect must be a master of construction; and there are plenty of folk who will tell you that if he knows his business in this line he need not bother his head with the architecture of the past. But to say this is entirely to misunderstand the nature of architecture. I am sure it is a fact that architectural design is so bound up, and necessarily bound up, with past tradition that it is literally impossible to achieve beauty in our art without an intimate knowledge of, and an intimate reliance on, past work. Such knowledge and such reliance are not the least fetter upon the imagination or the invention; to think that they are is to misplace the office of the imagination in architecture. What is more, one finds that it is only the man of deep knowledge whose imagination can be trusted to be sound. Not in the least do I mean that an architect should design with some Gothic handbook or sheet of the Orders at his elbow, but he absolutely must *know* the rules of the game before he can be successful in breaking or modifying them. Besides, and this is the great truth, the power to see aright, to criticise his own work, to gauge proportion and to curb excrescence, can *only* come to the eye that is steeped in the work of other men and other days. There is no such thing possible as a fresh start in architecture. If it could be made we should no more think the result beautiful than we should admire a woman whose features had nothing in common with female type, or a poem in a new-born language. People talk boundless nonsense about the style of the future, and complain sometimes of the absence of a style of the present. This is so short-sighted! It is impossible to make a new style that would show for such in the making. It is equally impossible to prevent the production by your own self of work which future ages will unhesitatingly recognise as coming from the reign of Edward VII.

Where, then, you will properly ask, is the field of action for that expression which I said was to be the mission of twentieth-century architecture? The answer that some men would give is that all architecture should be the expression of a building's use or of the needs of the builder. Such an answer, I think, is only a part of the truth, for the architecture which expresses only the necessities of the case with which it deals may be in danger of lapsing from the level of art. Architecture, I suppose, is in reality concerned to express, not the needs only, but the purpose, and to some extent the circumstances, of the building. One realises this conspicuously in architecture of a monumental, civic, or ecclesiastical character. The worshippers' needs might be met by a corrugated-iron hut; justice might be housed in fourteen-inch brick walls with a skylight; and a corporation might save the rates by meeting in a £50 ready-made mission room. That they do not do so is due not merely to the artfulness of architects, nor to extravagance in the promoters, but, as we all know, to a sense of fitness which not merely suggests, but even demands the housing of the Church, the State, and the Law in buildings which shall be not permanent alone, but expressive of the dignity of social humanity. We have got near to a truism here (but a truism which is worth reaffirming), that it is the architect's mission to give to these buildings the expression, the countenance, which shall be an index of the building's highest aim. Some folk have thought that this duty of the designer was met by the application of a statue of blind Justice to the façade of a law court, or by the chiselling of texts on a church porch; but of course the language of architecture is really another business than this altogether. A good many so-called architects never learn that language at all except for parrot repetition; what wonder, then, that the mass of the public—and among them some of our kindest clients—do not always realise what we are driving at?

If we only knew it, ours is the greatest of the arts, unless maybe we have found our match in music. When I say this I mean not merely that ours is the oldest art, though that is true; not that it is the most enduring, for that is disputable; not that through all the ages it has been the handmaid of religion, for here it is rivalled by painting and sculpture, and most of all by music. We have indeed a deeper claim than these, a claim touching more closely the nobility of art and the nobility of human nature. You must allow me to end this sermon with a text: "Every house is builded by some man, but he that built all things is God." Is it fanciful to think that this bit of old Bible truth has an equally true corollary? Man was made in his Maker's image—a fact in human evolution which means most surely that God's work is man's work, and that we mortals have in us the divine impulse to be creators. Now you have my point. Which among the arts is the most creative? Not those of the painter and sculptor, which necessarily rely on imitation as at least an element in their composition; not those of the poet and the musician, though to give reasons for this exclusion cannot be our task now; but surely in this, as in other senses, our architecture is, as her name implies, a queen of crafts—not an imitator, but a creator.

The Royal Institute of British Architects 1834. Incorp. 1837 1887

9, Conduit Street, London, W., 11*th Jan.* 1902.

CHRONICLE.

Specifications for Fire-Resisting Buildings.

In order to encourage the construction of buildings of better fire-resisting character than most of those ordinarily classed as "Fireproof," the Associated Fire Offices have drawn up the subjoined specifications: No. I. for buildings occupied as cotton-mills or woollen-mills, or buildings for similar textile trades; No. II. for ordinary buildings, as sale-shops, warehouses, and factories other than cotton-mills, &c. It is intimated that the Fire Offices will make reductions in rates for buildings which conform to these specifications.

I.—The following specification is applicable only to buildings occupied as cotton-mills or woollen-mills or to buildings used for similar textile trades:—

Height and Area.

1. Height not to exceed four stories and cellar. The ceiling of the cellar not to be more than 3 feet above the lowest point of the land level or ground line of the site on which the building stands.

2. Superficial area of any one compartment not to exceed 25,000 square feet internal measurement, excluding area of window recesses and doorways.

N.B.—The height of any compartment, excluding cellar, to be not less than 12 *feet, measuring from the floor level to the highest point of the ceiling.*

External, Party, and Internal Walls, and Partitions.

3. Brick, terra-cotta, and/or cement concrete composed of broken brick, burnt ballast, furnace slag, clinker, or other similar hard and burnt material.

4. No external or party or division wall to be less than 13 inches thick in any part, or if of concrete 20 inches.

N.B.—Stone used externally only as ashlaring or facing, with a backing of brickwork not less than 13 *inches thick, and for dressings, sills, string courses and cornices, allowed.*

5. All internal partitions to be of incombustible material, excepting only office enclosures of hard non-resinous wood with or without glazing.

6. If there is any building adjoining, the dividing or party wall to extend at least 3 feet above the roof of the fire-resisting building.

Flues.

7. All flues to be built of brickwork, no part of which towards the interior of the building is to be less than 9 inches thick, and all furnace flues to be lined with fire-brick throughout for a distance of at least 20 feet from the furnace. No timber or woodwork to rest in or be plugged into the brickwork of any flue.

Openings in External Walls.

8. The total area of openings in the external wall of any story not to exceed one-half of the area of the wall (measured as to height from floor to ceiling of the story in which the openings occur). All loop-hole or teagle doors and frames and window frames and sashes to be of iron or other hard metal.

9. Every window or other opening opposing (whether directly or diagonally) and within 20 feet of any window, skylight, or glazed or other opening in any other building (whether such latter window, skylight or opening be protected or not), or overlooking (whether directly or diagonally) and within 20 feet of the non-fireproof roof of any building, to be protected by "fireproof" shutters or "fireproof" doors which are automatically self-closing in case of fire.

Floors.

10. Brick arches, terra-cotta, fireclay, or concrete as above described, the floor being in no part less than 6 inches in thickness, and carried on metal joists, girders and columns or brick walls or piers.

N.B.—Floors of wood not less than 9 *inches thick, ceiled with plaster on metal lathing, and with the floor boards laid on the bearers without intervening space allowed.*

11. Wooden flooring laid on brick arches, terra-cotta, fireclay, or concrete as above described allowed, provided there is no intervening space. Wooden fillets not exceeding three inches deep permitted if laid on brick arches, terra-cotta, fireclay, or concrete as above described, the intervening spaces being filled with incombustible material.

11a. Scuppers to carry off water, the opening of each of which shall not be less in area than 21 superficial inches, to be provided in the external walls to each floor at intervals of not more than 25 feet.

Roofs.

12. Roofs to be entirely of the incombustible materials as described for floors in Rule 10, except that 4 inches be substituted for 6 inches in thickness, but there may be erected above them light shelters or roofs constructed entirely of incombustible materials.

Note.—*Glass not less than ¼ inch thick in sections not exceeding* 36 *superficial inches, and wired glass not exceeding one-inch mesh, in sections not exceeding* 144 *superficial inches, in either case set in metal, shall for the purpose of this Rule be deemed incombustible.*

Outlets on to roofs rendered necessary to satisfy the requirements of the Factories and Workshops Act permitted, provided that all doors and frames be of iron or cased in iron plate at least ⅛th of an inch thick, and that they be self-closing.

Protection of Structural Metal Works.

13. All columns or stanchions to be covered with brickwork or porous terra-cotta (at least 2 inches thick), or with cement, concrete, or plaster at least 1½ inches thick, keyed into metal supports and protected by a metal guard up to a height of not less than 4 feet from the floor where cement, concrete or plaster only used.

14. Girders, joists, lintels, and all structural metal work (other than columns and stanchions, but including framework of roofs), where not covered with brickwork, to be completely encased in porous terra-cotta at least 2 inches thick, securely anchored, or cement, concrete or plaster at least 1 inch thick keyed into metal supports.

15. Space must be left at the ends of girders and joists to permit of expansion.

Linings and Ceilings.

16. No lining of wood or textile fabric, to any part of the walls, partitions, ceilings or roof.

Floor Openings.

17. No openings through any floors allowed except holes to admit steam, gas and water pipes, and iron or earthenware tubes for electric conductors. All pipes and tubes to be cemented round the full thickness of the floor.

> *N.B.—All staircases, hoists, rope and strap races, and gearing towers to be external to the four walls of the building and constructed entirely of brick or cement concrete as above described at least 9 inches thick.*

Hoists must be constructed in the staircase enclosures, and no opening thereto to be less than 6 feet from any opening into the building. Excepting hoists the enclosing walls must be carried through and 18 inches above the roof of the building, and the roofs, stairs and landings of said enclosures must be constructed of incombustible material. No openings permitted between the building and the rope and strap races and gearing towers, and each opening from the staircase into the building to be protected by a "fireproof" door.

Shafting through Walls.

18. Shafting where passing through walls to fit closely into wall, or have wall boxes closed with iron plates not less than $\frac{1}{4}$ inch thick, leaving no open space.

Pipes and Electric Conductors.

19. All pipes in the building, except water pipes not exceeding $1\frac{1}{5}$ inches in diameter, to be of hard metal. No wooden casing to be used for enclosing electric conductors.

Communicating Compartments.

20. Two or more compartments each constructed in accordance with these Rules may communicate whether by double "fireproof" doors or otherwise, provided that their aggregate superficial area does not exceed 25,000 square feet.

21. Two or more such compartments, whose aggregate superficial area exceeds 25,000 square feet, can only be allowed to communicate across a fireproof compartment, built up from the basement with walls of solid brickwork, and constructed in all other respects in accordance with these rules so far as the same are applicable, and having all openings protected by "fireproof" doors at least 6 feet apart.

22. Except as above no communication allowed between a compartment constructed in accordance with these Rules and any other compartment.

II. The following specification is applicable to ordinary buildings such as sale-shops, warehouses, and factories, excluding cotton-mills and buildings occupied for similar textile trades:—

Height and Cubical Contents.

1. Height not to exceed 80 feet, measured from the lowest point of the land level or ground line of the site on which the building stands to the level of the highest part of the roof.

2. Cubical contents of any one compartment not to exceed 60,000 cubic feet.

> *N.B.—In computing cubical contents the whole surface, area, including half of the party-walls and the whole of the external walls, and the actual height, from the surface of the lowest floor, are to be measured.*

Walls and Partitions.

3. Brick, terra-cotta, and/or cement concrete composed of broken brick, burnt ballast, furnace slag, clinker, or other similar hard and burnt material.

4. No external area or party-wall to be less than 13 inches thick in any part, or, if of concrete, 20 inches.

> *N.B.—Stone used externally only as ashlaring or facing, with a backing of brickwork not less than 13 inches thick, and for dressings, sills, string courses and cornices, allowed.*

5. All internal partitions to be of incombustible material, excepting only office enclosures of hard non-resinous wood with or without glazing.

6. If there is any building adjoining, the dividing or party-wall to extend at least 3 feet above the roof of the fire-resisting building.

Flues.

7. All flues to be built of brickwork, no part of which towards the interior of the building is to be less than 9 inches thick, and all furnace flues to be lined with fire-brick throughout for a distance of at least 20 feet from the furnace. No timber or woodwork to rest in or be plugged into the brickwork of any flue.

Openings in Walls.

8. The total superficial area of openings in each external or area wall of any story above the ground story not to exceed one-half of the area of the wall (measured as to height from floor to ceiling of the story in which the openings occur). All loop-hole or teagle doors and frames and window frames and sashes to be of iron or other hard metal. All windows above the ground story to be glazed with glass not less than $\frac{1}{4}$-inch thick, in sections not larger than 2 superficial feet, or wired glass not exceeding 1-inch mesh, in sections not larger than 4 superficial feet.

9. Every window or other opening above the ground story opposing (whether directly or diagonally) and within 20 feet of any window, skylight, or glazed or other opening in any other building (whether such latter window, skylight or opening be protected or not), or overlooking (whether directly or diagonally) and within 20 feet of the roof of any building, to be protected by "fireproof" shutters or "fireproof" doors.

Floors.

10. Brick, arches, terra-cotta, fireclay, or concrete as above described, the floor being in no part less than 6 inches in thickness, and carried on metal joists, girders and columns, or brick walls or piers.

> *N.B.—Floors of wood not less than 9 inches thick, ceiled with plaster on metal lathing, and with the floor boards laid on the bearers without intervening space allowed.*

11. Wooden flooring laid on concrete allowed provided there is no space between the wood and the concrete. Wooden fillets not exceeding 2 inches deep permitted if bedded flush in the concrete.

12. Scuppers to carry off water, the opening of each of which shall not be less in area than 21 superficial inches, to be provided in the external walls to each floor above the ground story at intervals of not more than 12 feet.

> *N.B.—In buildings within the City of London or within the area controlled by the London County Council, scuppers are not essential.*

Roofs.

13. Roofs to be entirely of the incombustible materials as described for floors in Rule 10, except that 4 inches be substituted for 6 inches in thickness.

> Note.—*Glass not less than $\frac{1}{4}$-inch thick in sections not exceeding 36 superficial inches, and wired glass not exceeding 1-inch mesh, in sections not exceed-*

ing 144 superficial inches, in either case set in metal, shall for the purpose of this Rule be deemed incombustible.

Outlets on to roofs rendered necessary to satisfy the requirements of the Factories and Workshops Acts permitted, provided that all doors and frames be of iron or cased in iron plate at least ⅛th of an inch thick, and that they be self-closing.

PROTECTION OF STRUCTURAL METAL WORK.

14. All columns or stanchions to be covered with brickwork or porous terra-cotta (at least 2 inches thick), or with cement, concrete, or plaster at least 1½ inches thick, keyed into metal supports and protected by a metal guard up to a height of not less than 4 feet from the floor where cement, concrete or plaster only used.

15. Girders, joists, lintels, and all stuctural metal work (other than columns and stanchions, but including framework of roofs), where not covered with brickwork, to be completely encased in porous terra-cotta at least 2 inches thick, securely anchored, or cement, concrete or plaster at least 1 inch thick keyed into metal supports.

16. Space must be left at the ends of girders and joists to permit of expansion.

LININGS AND CEILINGS.

17. No lining of wood or textile fabric, to any part of the walls, partitions, ceilings, or roof.

FLOOR OPENINGS.

18. No openings through any floors allowed except as follows:—

(*a*) Holes to admit driving shafts, pipes, and iron or earthenware tubes for electric conductors. Shafts to fit closely in metal collars, and all pipes and tubes to be cemented round the full thickness of the floor.

(*b*) Staircases and hoists of which the enclosures are constructed entirely of brick or cement concrete as above described at least 9 inches thick, with a regulation "fireproof" door to every opening.

N.B.[1]*—Stairs and landings within said enclosures to be constructed of incombustible material.*

N.B.[2]*—Where the building is within the City of London or in the area controlled by the London County Council, hardwood doors to openings may be allowed instead of "fireproof" doors.*

N.B.[3]*—Where the staircases and hoists extend to the top floors they must have a glass roof protected externally with strong wire-work, and the enclosing walls must be carried through and 18 inches above the roof of the building.*

In factories and workshops in the area controlled by the London County Council a glass roof protected as above is only to be provided in cases where the enclosing walls and staircases are carried through and 18 inches above the roof of the building, and also above the roof of the adjoining premises. Otherwise the roof must comply with the requirements of the London County Council.

(*c*) Belting and rope races enclosed as for staircases and hoists.

SHAFTING THROUGH WALLS.

19. Shafting where passing through walls to fit closely into wall, or have wall boxes closed with iron plates not less than ¼-inch thick, leaving no open space.

PIPES AND ELECTRIC CONDUCTORS.

20. All pipes in the building, except water pipes not exceeding 1½ inches in diameter, to be of hard metal. No wooden casing to be used for enclosing electric conductors.

COMMUNICATING COMPARTMENTS.

21. Two or more compartments, each constructed in accordance with these rules, may communicate whether by double "fireproof" doors or otherwise, provided that their aggregate cubical contents do not exceed 60,000 cubic feet.

22. Two or more such compartments, whose aggregate cubical contents exceed 60,000 cubic feet, can only be allowed to communicate across a "fireproof" compartment, built up from the basement with walls of solid brickwork, and constructed in all other respects in accordance with these rules so far as the same are applicable, and having all openings protected by "fireproof" doors at least 6 feet apart.

23. Except as above no communication allowed between a compartment constructed in accordance with these rules and any other building or compartment.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

Mr. Ashlin's Presidential Address.

At the Annual General Meeting of this Institute held on Thursday, 19th December 1901, the new President, Mr. George C. Ashlin, R.H.A. [*F.*], delivered the following Address:—

In taking the chair on this occasion my first duty is to thank the members of the Institute who have elected me as their President. Although I fully appreciate the high honour that has been conferred on me, I must say in all sincerity that I would much prefer that some other member more suited to the position had been chosen. However, as the lot has fallen on me, I feel bound to accept the position and to endeavour to carry out its duties to the best of my ability. Coming after the long and successful presidency of Sir Thomas Drew, during which the interests of the Institute have been so much advanced and its stability so well secured, I trust that my task may be a comparatively easy one, especially as I know that I can rely on the co-operation of the Council, of which I hope our late President will long remain an active member. At our last annual meeting Mr. Rawson Carroll expressed in very felicitous and accurate terms our feelings in regard to the well-merited honour that had been conferred on our ex-President and indirectly on the profession in Ireland. Since that an additional honour has been paid to him by his selection as one of the five architects appointed to submit designs for the Queen's Memorial in London, which I am sure we have all heard with great pleasure and satisfaction.

This leads me to mention a matter affecting our interests as Irish architects which was referred to in very guarded terms in Sir Thomas Drew's Address of last year. I mean the practice which has sprung up of late years of public companies who have their headquarters in London or elsewhere employing architects who are not in practice in Ireland to erect their buildings in Dublin. Now, while it is quite proper that in the case of works of an Imperial character the advice of the representative men in the three kingdoms should be sought, I think a different principle should prevail in the case of commercial undertakings that are established here to seek Irish support. I feel less hesitation in expressing my views on this matter, because it refers to a class of buildings more or less removed from my ordinary practice. We all feel justly proud of the many buildings of this character that have been erected in our leading thoroughfares in Dublin by our own members, whose executed works compare not unfavourably with any similar buildings I have seen here or elsewhere by non-resident architects. We naturally feel disappointed that the policy that has been hitherto followed by public companies erecting their sub-offices here should be departed from. I need hardly add that while we object to the general principle, we are always glad to extend the open hand of fellowship to any of our brethren across the Channel who come over under such circumstances and to appreciate the merits of their designs irrespective of the consideration I have mentioned.

As it seems of late expected that the incoming President should deliver a special Address on these occasions on some general topic of interest to the profession apart from what may be dealt with in the report of Council, I do not wish to be an exception to the rule. The subject I have chosen is

THE POSSIBILITY OF THE REVIVAL OF THE ANCIENT ARTS OF IRELAND AND THEIR ADAPTATION TO OUR MODERN CIRCUMSTANCES.

I fully realise that this is what may be called "a very large order," and that it cannot be dealt with adequately on an occasion of this kind; but I feel that I am addressing a very sympathetic audience, and trust therefore that you may be able to read my meaning between the lines of the somewhat fragmentary remarks I have to offer for your consideration. I cannot do better than give you, as a prelude to these remarks, a passage from an eminent French writer on architecture. He says: "So early as the sixth century Ireland was the centre of art and science in the West"; and further: "The Irish monks exercised a considerable influence on Continental art down to the days of Charlemagne in the monuments of the Romanesque movement." Other competent authorities have borne similar testimony to the work of our fellow-countrymen of that time over the whole of Europe, so that it may be safely affirmed that there existed for a long period a distinctive national school of Irish art capable of immense development. The national progress of this school was unfortunately arrested in Ireland by extraneous circumstances which it would take too long to describe now, but we still possess many examples all over the country which compare favourably, especially in delicacy of treatment, with contemporary Romanesque art in other countries.

Although the buildings that remain to us in Ireland in this style are comparatively few and small, they contain the germs of a pure and original type of monumental art, and as they are supplemented by the numerous illuminated manuscripts and metalwork existing in our museums, we have at hand examples to guide us over the whole field of its building and decoration. Hitherto the efforts of our artists and architects have been mainly confined to the development of this style in such minor matters as sepulchral monuments, Celtic crosses, and illuminated addresses.

Now, however, when there has arisen in Ireland such a pronounced desire amongst the public to foster all the distinctive features of our national life, it appears opportune that an attempt should be made to carry out the principle in our own important monumental buildings, and that our Institute should take its proper place in this movement, and thus fulfil the primary object of its constitution, viz. the general advancement of architecture in Ireland. I shall be fortunate indeed if the few words I have spoken may induce some of our body, more qualified than I am, to read a Paper on this subject during the session, when it can be fully discussed.

In the meantime I throw out the suggestion that the next subject for competition offered to our friends of the Architectural Association of Ireland, which is already doing such good work, might be for the design of a church, taking Cormac's Chapel at Cashel as a type, modified to suit our present ideas and the facilities in materials and construction we enjoy.

Before I conclude, I would like to say a few words on another matter intimately connected with this subject. I refer to the difficulty which all those who devote their attention to ecclesiastical works experience in finding artists and artificers in Ireland—in some at least of the branches of architectural decoration—with the necessary training and equipment to enable them to carry out the ideas of our clients and of ourselves, especially in our relation to such works as representations of subjects from the lives of Irish saints in sculpture under proper architectural restraint, in stained glass, painting, and mosaic. I think a considerable advance has been made in architectural sculpture and metalwork of late years, but in other matters we are mainly dependent on foreign aid. In consequence, our churches are filled with works by English, French, Italian, and German artists, which, although some of them have considerable artistic talent in the abstract, lack that distinctive element of national character which should always be found in a speaking art such as ours should always aim to be.

As an illustration of what I mean, I may mention a modern building which I saw last year, and which struck me as exemplifying the ideal which we might aim to attain to. It is the Castle in the Bavarian Alps built by the late King. It is, in the first place, a most picturesque building in the German type of Romanesque, and modelled on the old castles of Nuremberg, but still in every way fitted to be a most delightful modern residence. It is, however, in its internal decoration that it appears to me specially admirable. The walls are completely covered by carving or painting or mosaic, but every part bears a distinctly local impress.

The subjects of the large paintings illustrate the history and legends of the country: they are framed in foliated interlaced ornament, in which are introduced medallion portraits of local celebrities and illustrations of the animal and vegetable peculiarities of the neighbourhood. I have brought a book of drawings and some photographs of this building, which give some of the details of the decoration, and which some of you may wish to look over. This indicates clearly the presence of a complete school of artists and artificers thoroughly in touch with the aspiration and feelings of the people.

If such a school could be established in Ireland it would not only be an immense benefit to our art, but, in an economic sense, would tend to arrest the dreadful drain of our resources which at present is going on by having to import such a large portion of the decorative works of our churches from other countries.

I know that our Institute can do little more than direct attention to this want, and that we must mainly depend for its removal, first, on the help promised by our public departments in establishing technical schools and encouraging new industries in a practical manner; and, secondly, on a concerted action on the part of our employers in supporting and assisting to develop the existing establishments by a more generous and continuous support. The influence of the Institute in giving a practical direction to these measures might, I think, be beneficial.

It occurs to me, however, to suggest that we might do something more direct in a small manner at the present juncture by offering prizes at the forthcoming Cork Industrial Exhibition for specimens of work such as I have mentioned, and for which there is a constant demand. I think if a special fund were opened, the small necessary help for this would be forthcoming from our own body.

The Three Towns Branch of the Devon and Exeter Society.

The Plymouth, Devonport, and Stonehouse Branch of the Devon and Exeter Architectural Society desire mention in the JOURNAL of their Programme for the Session 1902, viz.:

Jan. 22. Lecture by Mr. Edmund Sedding [*F.*]: "Old Cornish Towers," with Lantern Illustration.
Jan. 24. Annual Dinner.
Feb. 26. Address by Mr. Silvanus Trevail [*F.*].
Mar. 26. Lecture by Mr. A. S. Parker [*A.*]: "Building By-laws."
April. Annual Meeting of the Branch.
May. Annual Meeting of the Devon and Exeter Society at Exeter.
June. Visit to Totnes. Exhibition of R.I.B.A. Drawings.

Mr. Charles King [*F.*] is Chairman of the Branch, and Mr. B. Priestley-Shires [*A.*], Hon. Secretary and Treasurer.

REVIEWS.

VALUATIONS AND COMPENSATIONS.

Valuations and Compensations: A Text-book on the Practice of Valuing Property and on Compensations in relation thereto. For the use of Architects, Surveyors, &c. By the late Prof. Banister Fletcher. Revised and rewritten by Banister F. Fletcher, A.R.I.B.A., and H. Phillips Fletcher, A.R.I.B.A., Barrister-at-Law. 8o. *Lond.* 1901. [*B. T. Batsford, 94 High Holborn, W.C.*]

The book by the late Professor Fletcher being again out of print, his two sons have issued a second edition, revised and rewritten, although the familiar features of the old have been retained as far as possible, and numerous examples have been given. This endeavour to increase its usefulness as a text-book for the student and a work of reference for the practitioner will no doubt be appreciated. But it must be borne in mind that valuing is not students' work, and too much heed cannot be paid to the warnings which the authors address to readers in their Preface.

A new feature is Chapter IV., which gives a clear exposition (by Mr. Richard Parry) of the structure of the Valuation Tables in general use, and to Chapter XI. is added a long and complete example of how a valuation for a compensation claim should be made out. This is illustrated by a plan showing the proposed branch railway and the properties to be taken.

The various tables given are most useful. That on p. 67 (Table VII.) should be brought up to date by the omission of Local Board and Vestries, and the substitution, or at least addition, of Metropolitan Boroughs. The remarks on Betterment might also be extended by a reference to the recent Manchester and London Acts, which practically now govern that matter (p. 77). The London County Council form of claim given on page 103 would be better if not printed upside-down, and the words "Building Act" on page 86 should have "London" in front of them. Cistern "on" roof (p. 38) should probably be "in" roof, and if a detailed Schedule of Dilapidations is to be made as suggested over every valuation, one wonders who is to pay for it. Is it correct to say that any class of property requires much care in "estimation" (p. 33)? The various By-laws governing the size of windows are at least as important as what Gwilt says on the subject, and one imagines that the replanning and improvement of properties is more the work of an architect than a surveyor—even a good one (p. 32).

It being granted that valuing is no work for the tyro—and it most certainly is not—much of the matter in the first part of the book might be omitted—it is mostly common knowledge to all who have passed the pupil stage. And it is not all beyond criticism. Is it necessary, for instance, to have silk flaps to the air inlets of drains, or to have glazed brick lining to man-holes? Is it necessary or even desirable that large premises should have electric alarms to doors and windows? But if we are to go into details, it would be well to say that cistern overflow pipes should have the outside ends capped.

The headings to the chapters, taking up in many cases nearly or wholly a page, might be cut down considerably; the text must be read if one is to know what the chapter contains.

These are not merely captious criticisms, but rather suggestions for improving the usefulness of a very useful little volume. Table III. (being a list of queries prepared for the directors of a large society for the use of their surveyor in his reports) might, as is suggested, well be taken in blank by all young surveyors when surveying properties for valuation. Properly filled in no essential item would then be forgotten.

C. H. Brodie.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1901-1902, held Monday, 6th January 1902, at 8 p.m., Mr. John Slater, B.A.Lond., *Vice-President*, in the Chair, with 21 Fellows (including 9 members of the Council), 16 Associates (including 2 members of the Council), 2 Hon. Associates, and visitors, the Minutes of the meeting held 2nd December 1901 [p. 96] were taken as read and signed as correct.

The decease was formally announced of the following members:—Edward Henry Martineau, *Fellow*; Hugh Leonard and Edmund William Smith, *Hon. Associates* [p. 92].

The following members attending for the first time since their election were formally admitted and signed the respective registers:—Arthur Clyne, *Fellow*, President of the Aberdeen Society of Architects; Kensington Gammell and John Fairweather, *Associates*.

The following applicants for candidature, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, viz.:—As FELLOWS (4), John Parker, Cape Town; Andrew Noble Prentice (*A.* 1891, *Soane Medallist* 1888); John Robert Moore-Smith (*A.* 1896); Frederick Henry Tulloch (*A.* 1889), Belfast. As ASSOCIATES (34), Charles Thomas Adshead (*Probationer* 1894, *Student* 1897, *Qualified* 1901, *Ashpitel Prizeman* 1901), Liverpool; Sidney Walter Bensted (*Probationer* 1893, *Student* 1897, *Qualified* 1901); Ernest George Besant (*Probationer* 1896, *Student* 1899, *Qualified* 1901), Cambridge; Austin Barugh Botterill (*Probationer* 1895, *Student* 1897, *Qualified* 1901); Charles Alfred Broadhead (*Probationer* 1898, *Student* 1899, *Qualified* 1901), Nottingham; Dean John Brundrit (*Qualified Special Examination June* 1901), Ulverston; Harold Busbridge (*Probationer* 1892, *Student* 1895, *Qualified* 1901); Ralph Scott Cockrill (*Probationer* 1896, *Student* 1898, *Qualified* 1901), Great Yarmouth; William John Devlin (*Probationer* 1891, *Student* 1896, *Qualified* 1901); Walter Ernest Dobson (*Probationer* 1894, *Student* 1900, *Qualified* 1901); James Ewing (*Probationer* 1897, *Student* 1898, *Qualified* 1901); Edward Lawrence Gaunt (*Probationer* 1900, *Student* 1900, *Qualified* 1901), Bradford: Arthur Everett Gibbons (*Probationer* 1895, *Student* 1897, *Qualified* 1901); Francis Robert Boyd Haward (*Probationer* 1898, *Student* 1900, *Qualified* 1901); Ralph Eustace Hemingway (*Probationer* 1898, *Student* 1900, *Qualified* 1901), Nottingham; Augustus Edward Hughes (*Probationer* 1894, *Student* 1898, *Qualified* 1901); Allen Trevis Hussell (*Qualified* 1901, *Special Examination*), Ilfracombe; Ernest William Lees (*Probationer* 1892, *Student* 1895, *Qualified* 1901); Edward Berks Norris (*Probationer* 1897, *Student* 1899, *Qualified* 1901), Birmingham; Leonard Rycroft Oakes (*Probationer* 1896, *Student* 1899, *Qualified* 1901); Harold Frederic Ponton (*Probationer* 1894, *Student* 1897, *Qualified* 1901); Cyril Edward Power (*Soane Medallist* 1900, *Qualified* 1901 *Special Examination*); William Beddoe Rees (*Probationer* 1898, *Student* 1900, *Qualified* 1901), Cardiff; Charles Herbert Reilly, M.A. Cantab. (*Probationer* 1896, *Student* 1898, *Qualified* 1901); Ernest George Rodway (*Probationer* 1895, *Student* 1897, *Qualified* 1901), Bristol; Andrew Sharp (*Qualified Special Examination, Montreal*, 1901), Montreal; George Lister Thornton Sharp (*Probationer* 1897, *Student* 1900, *Qualified* 1901); William Slater (*Probationer* 1889, *Student* 1893, *Qualified* 1901), Nottingham; Francis Danby Smith (*Probationer* 1894, *Student* 1898, *Qualified* 1901); Walter Stephen Tucker (*Probationer* 1895, *Student* 1896, *Qualified* 1901), Newmarket; Arthur Halcrow Verstage (*Probationer* 1894, *Student* 1897, *Qualified* 1901); Edwin Paul Wheeler (*Probationer* 1893, *Student* 1896, *Qualified* 1900); Joseph Alfred Woore (*Probationer* 1895, *Student* 1897, *Qualified* 1901), Derby; Edmund Livingstone Wratten (*Probationer* 1897, *Student* 1899, *Qualified* 1901).

The Hon. Secretary having announced the receipt of a number of donations to the Library, a vote of thanks was passed to the donors.

A Paper by Dr. A. S. Murray [*H.A.*] on Two Ionic Capitals in the British Museum having been read by the author and illustrated by lantern slides, and Mr. Hugh Stannus [*F.*] having by invitation of the Chairman exhibited and described a further series of lantern slides in connection with the subject, a discussion ensued, and a vote of thanks was passed by acclamation to Dr. Murray and also to Mr. Stannus.

Dr. Murray having replied to various questions raised during the discussion, the proceedings closed and the Meeting separated at 9.45 p.m.

THE ARCHITECTURAL DISCOVERIES OF 1901 AT STONEHENGE.

By Detmar J. Blow.

Read before the Royal Institute of British Architects, Monday, 20th January 1902.

IN accepting your kind invitation to show you the result of last year's work at Stonehenge, I was hopeful that it might interest and amuse you, but unfortunately I have grown sadder and wiser in following the archæological scent—a never-ending and alluring pleasure to the hunter, though there be never a kill, and my only hope is in my firm belief in your generosity and your English appreciation of these sports.

I will first say a few words about the archæological investigations undertaken at Stonehenge in 1600 by one of the greatest masters of our art, though without any really satisfactory result. Inigo Jones's valuable *Discourse of Stonehenge Restored* was drawn up by direction of King James I. in the year 1620, though not published till after the author's death. The following is his own narration:

"Being naturally inclined in my younger years to study the Arts of Design, I passed into foreign parts to converse with the great masters thereof in Italy, when I applied myself to search out the Ruins of those ancient Buildings which, in despite of time itself and violence of Barbarians, are yet remaining. Having satisfied myself in these, and returning to my native country, I applied my mind *more particularly* to the study of architecture. Among the ancient monuments whereof found here, I deemed none more worthy the searching after than this of Stone-henge, not only in regard of the founders thereof, the *Time* when built, the

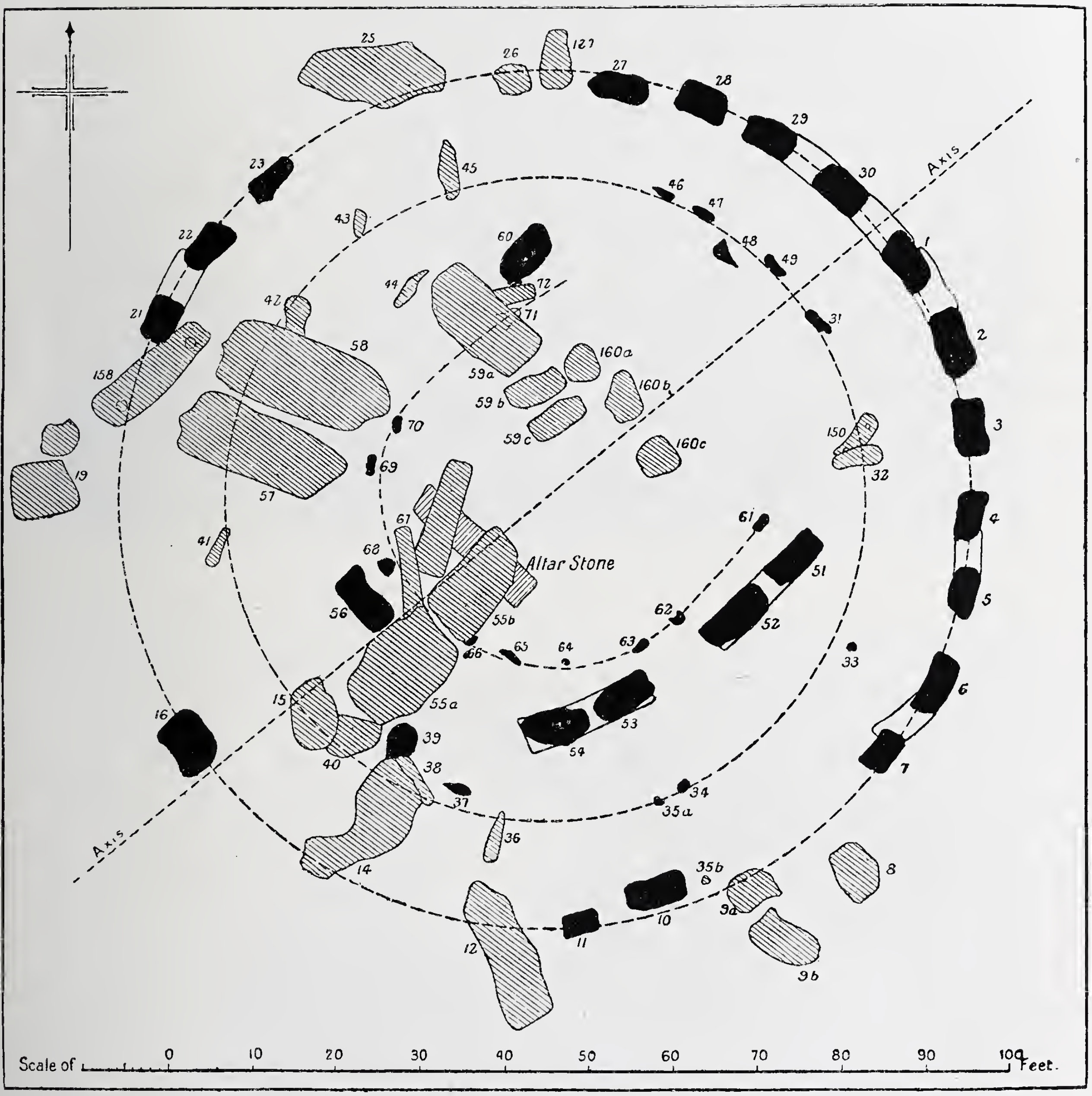
Work itself, but also for the rarity of its invention, being different in form from all I had seen before; likewise of as beautiful proportions, as elegant in order and as stately in Aspect as any. King James, in his progress the year 1620, being at Wilton, and discoursing of this Antiquity, I was sent for by the Right Honourable William, then Earl of Pembroke, and received there His Majesty's commands to produce, out of mine own practice in architecture and experiences in antiquities abroad, what possibly I could discover concerning this of Stone-henge."

After much reasoning, and quoting a long series of authorities, he concludes at last that this ancient and stupendous pile must have been originally a Roman temple inscribed to Coelus, the senior of the heathen gods, and built after the Tuscan order. Inigo Jones's notion was warmly attacked by Dr. Walter Charleton in a treatise called *Chorea Gigantum*, which was published in 1663, and here the doctor is very positive that this extraordinary monument was erected by the Danes, and he caused a copy of Inigo Jones's discourse to be transmitted to Olaus Wormius, the celebrated antiquary of Denmark, and Wormius returned his opinion of Stonehenge in several letters to Dr. Charleton. From the authorities and arguments produced in these letters, the doctor drew up his treatise, in which he maintains that this "ruinous fabric" was in reality of Danish origin. The world, however, did not generally come into the doctor's sentiments, though Sir William Dugdale is said to have approved of them in private conversation, and Dryden wrote an elegant panegyric to the author upon his performance. This renewed the controversy and gave occasion to John Webb, to whom we owe the original publication of Inigo Jones's book, to vindicate the opinion and memory of his kinsman Jones, in a tract of his own composition which he calls *A Vindication of Stonehenge restored; wherein the Roman architecture is discussed.*

Mr. Samms, in his *Britannia*, will have this structure to have been Phœnician; Mr. Aubrey thinks it was British, and yet, if the true old writing of the name be Stanhengest, as the *Monasticon* seems to tell us, "I cannot see," says Bishop Nicholson, "why the Saxons may not have as just a title as any to the honour of it." There is a manuscript treatise said to have been written upon this subject by one John Gibbons, and it is possible this gentleman may have a different notion from all the rest.

William Stukeley, in the preface to his book, discusses the *Discourse* of Inigo Jones, and wonders that the publisher of that work did not think of a very easy method to convince himself that he was in error. If Stonehenge is a Roman work, it would certainly have been built by the Roman scale; had he reduced his own measures to that standard, he would have seen the absurdity of his opinion. When Stukeley examined the dimensions of Stonehenge he found that, as he surmised, they were all fractions in the Roman scale, undoubted evidence that the Romans had no hand in building it.

"The Wiltshire Downs," says Stukeley, "or Salisbury Plain (as commonly called) for extent and beauty is one of the most delightful parts of Britain, but of late years" (that is, in 1740) "great encroachments have been made upon it by the plough, which threatens the ruin of this fine champain, and of all the monuments of antiquity thereabouts. Though Stonehenge be the proudest singularity of this sort in the world as far as we know (the Westminster Abbey of that period), yet there are so many others manifestly formed upon the same or kindred design, by the same measure and for the same purpose, all over the British Isles that we can have no room for doubt of their being made by the same people. These are innumerable from the Land's End in Cornwall to the utmost northern promontory in Scotland, where the Roman power never reached. They are circles of stones. often rude, of different diameters upon elevated ground, barren, open heaths and downs: chiefly made up of stones taken from the surface of the ground. There are no remembrances of the founders,



The numbering of the stones is that adopted by Mr. W. M. Flinders Petrie.

■ *Stones standing on 30th December 1900*

▨ *Stones recumbent on same date.*

From *The Times*, 9th April 1901.

FIG. 1.

any other than a tradition of their being sacred; that they were high places of worship, that there is a medicinal virtue in them (such as in lime stones in Ireland, Abbeyleix), that they were made by the Irish, and that they were brought from Africa; and in many places express remembrance and name of Druids remain."

Stonehenge stands in the middle of Salisbury Plain, between the River Avon to the east and a brook that runs into the Wylley on the west. The site itself is some 500 feet above the level of the streams, and from it the view extends almost across the shire, in one direction to old Sarum Castle, and in another towards Devizes, the horizon bounded by "the long green rollers of the down, an image of the deluge ebb." The turf of the temple floor is soft and springy and thick with herbs and flowers—thyme, bugloss, eyebright, agrimony, and wildbasil. The grass is bitten close by flocks of sheep, and nests of plovers and skylarks are scattered over it. The monument has stood here, and seen the rise and fall of more than one civilisation—sometimes the object of archæological inquiry, at others lost and forgotten (for in the Roman occupation it was not recorded).

The great monolith called the Leaning Stone is the largest in England, Cleopatra's Needle excepted. It was one of the pillars of the highest trilithon, and stood behind the altar stone, over which it leant at an angle of 65 degrees, and resting at one point against a small stone of syenite. Half-way up it had a fracture one-third across it. The weight of stone above this fracture was a dangerous strain on it. It has now been brought to a vertical position. This was done in the following manner: A strong cradle of 12-inch square baulks of timber was bolted round it, with plenty of packing and felt, to prevent any marking of the stone. To the cradle were fixed two 1-inch steel eyebolts to receive the blocks for two six-folds of 6-inch ropes. These were secured and wound on to two strong winches fifty feet away, with four men at each winch. When the ropes were thoroughly tight the first excavation was made as the stone was raised on its west side in the following manner: Above each space to be excavated was placed a frame of wood, bearing on its long sides the letters A to H, and on its short sides the letters R M L, each letter being on a line one foot distant from the next. By this means the area to be excavated was divided into squares, each having the dimension of a square foot. A long rod divided into 6-inch spaces, numbered from 1 to 16, was also provided for indicating the depth from the surface of material. Earth chalk rubble was then taken out. The excavation was then begun by taking out the material 3 inches to 6 inches in thickness. A letter on the long sides of the frames, together with one on the short sides, and a number on the vertical rod, hence indicated the position of any object found in any part of the excavation. One Roman coin and one George III. penny were found quite near the surface. Numerous chippings of the sarsen and blue stone of which Stonehenge is built were discovered. The flints found were used for the softer sarsen and blue stones. Hand hammers and mauls were used for rough dressing. From the implements discovered the deduction has been made that the building belongs to the Palæolithic period.

All authorities so far agree that it is the work of a highly civilised people; the construction is a stone one, and the surface of the stone was finished much like granite. The design of the pillars was in my opinion evolved from the shapes of the flint instruments used by the workman, and to which his hand had grown accustomed. Each pillar has a bold entasis in its elevation and in its plan, and foreshadows the invention of the column. The British Association have formed a committee for investigating the ruder stone circles over this country. Excavations are at present being carried on by Mr. Garron at Aberlow in Derbyshire, and it is possible they may prove to be only rougher monuments, earlier or later, of the Stonehenge period.

It only remains for me, in conclusion, to say a few words upon the subject of orientation.

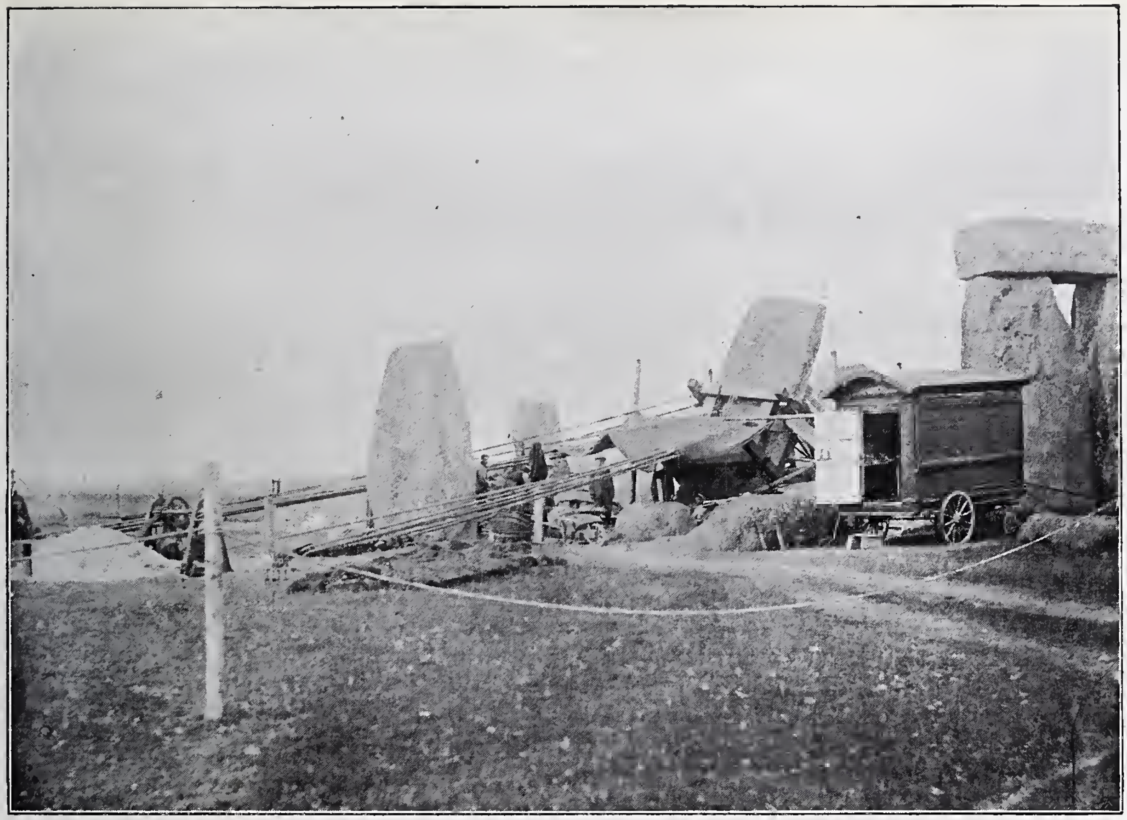


FIG. 2.—GENERAL VIEW.

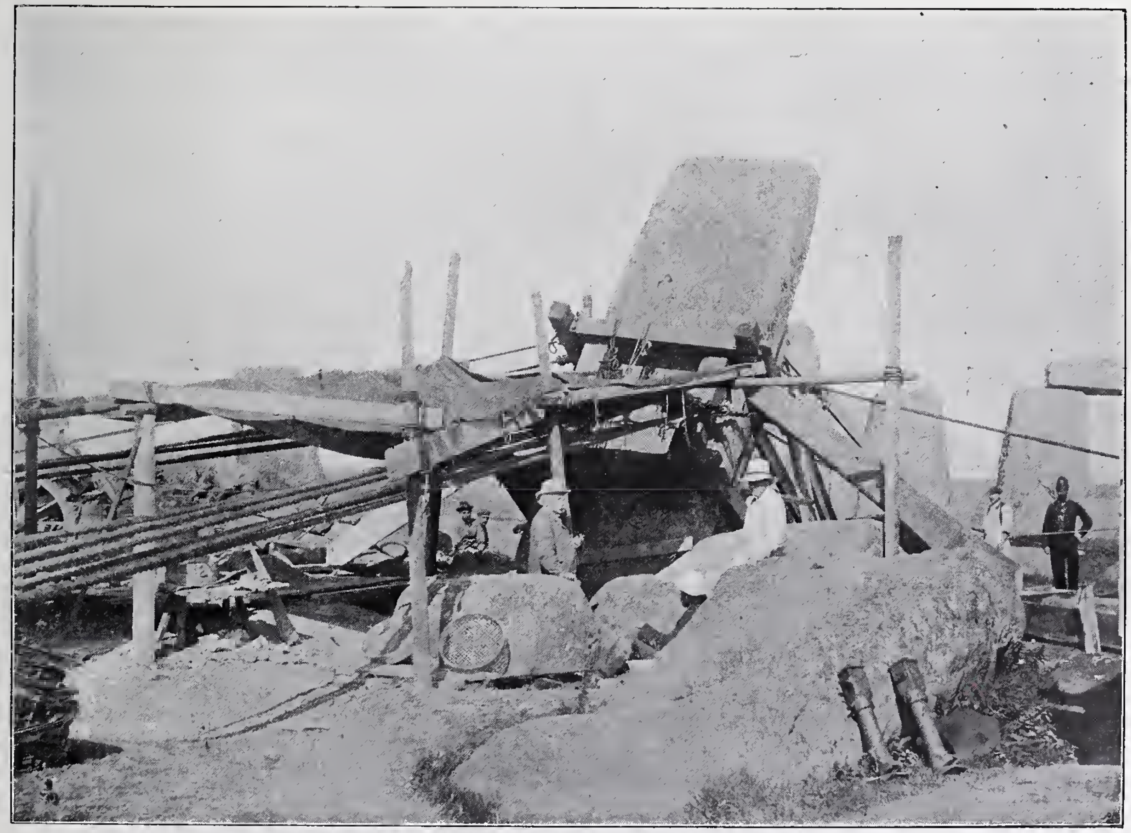


FIG 3.—STARTING FOR EXCAVATING WITH ROPES STRAINED.

The question is a puzzling one, as we find so many churches in England with the chancel slightly bending from the nave to the south. An explanation often given is that it is intended to represent the leaning head of our Lord; but I think from the slight observations already taken at Stonehenge that there is evidence to show, from the southerly direction in which the sun travels, and from the points of the compass there gradually tending towards the south, that these churches with the chancels slightly leaning out of the straight were erected on the site of very early primitive buildings.

⁂ Unfortunately for readers of the JOURNAL who were not present at the Meeting, the valuable part of Mr. Blow's discourse was comprised in his informal description of the excavations given during the exhibition of the lantern slides, which were very numerous, and, as may be gathered from those reproduced in these pages, of exceeding interest. Equally interesting were the series of plans hung round the Meeting-room, these including a plan of Stonehenge showing the present condition of the remains and the parts excavated under Dr. Gowland's guidance; plans and sections of the excavations, showing the nature of the soil and subsoil, and the actual spots where the flint implements, tools, and other relics were found. There were also exhibited a slab from the stone which has now been raised to its original vertical position, and specimens of the actual finds, such as stone chippings flint tools for dressing the softer stones, stone mauls, hammers for tooling the surface of the stones, specimens of rocks of which the stones consist, a copper-stained stone, bones found in the excavation, a deerhorn pick, fragments of pottery, coins, &c.

DISCUSSION OF MR. DETMAR BLOW'S PAPER.

Mr. JOHN SLATER, B.A.Lond., *Vice-President*, in the Chair.

In reply to Mr. Penrose Mr. Blow stated that the large and small hammers found were part of the same stone—a stone heavier and harder than sarsen.

SIR NORMAN LOCKYER, K.C.B., F.R.S., who was called on by the Chairman, said:—I need not say how extremely important the researches which Mr. Blow has put before us to-night are to anyone who studies Stonehenge—or any ancient monument which may be approximately of the age of Stonehenge—for the reason that archæologists have, I believe, quite come to the conclusion, from the evidence which has been obtained by the means which he has laid before us, that we are justified in assuming that the sarsen stones were erected in Neolithic times. That is to say, before the age of bronze; at all events before bronze had been used for any ordinary kind of work in that part of England. While this work has been going on—in fact, slightly before it was commenced—Mr. Penrose and myself have been occupying ourselves with Stonehenge from a slightly different point of view. We were anxious, if possible, to determine its age astronomically, because very much depends upon the true date of this unique structure. Stonehenge is the ancient monument in this country which lends itself to theodolite work better than any other. Avebury you know; and Stanton Drew is also known to a great many archæologists. There are also other very wonderful stone circles in Keswick and in other parts of England; but unfortunately it is very much more difficult to get certain astronomical data from these ancient monuments than it is in the case of Stonehenge, for the reason that Stonehenge itself lies high, and the horizon round it in all directions is pretty nearly the same height, so that the important question of the heights of the hills along the sight line—a matter which is very important from an astronomical point of view, although it has been absolutely neglected, so far as I can make out, by many who have made observations on these ancient monuments—is quite a simple one on Stonehenge. Hence it was much easier to determine a date there than by working at any of the other ancient remains to which I have referred. Now, in orientation generally, such orientation as has been dealt with by Mr. Penrose and myself in Egypt and in Greece, the question was a change in direction in the axis of a temple, or the laying down of the axis of a temple by means of observations of stars. Unfortunately for us as archæologists, not as astronomers, the movements of these stars, owing to certain causes, are very considerable; so that if a temple pointed to a star in one year, in two or three hundred years it would no longer point to the same star, but to another

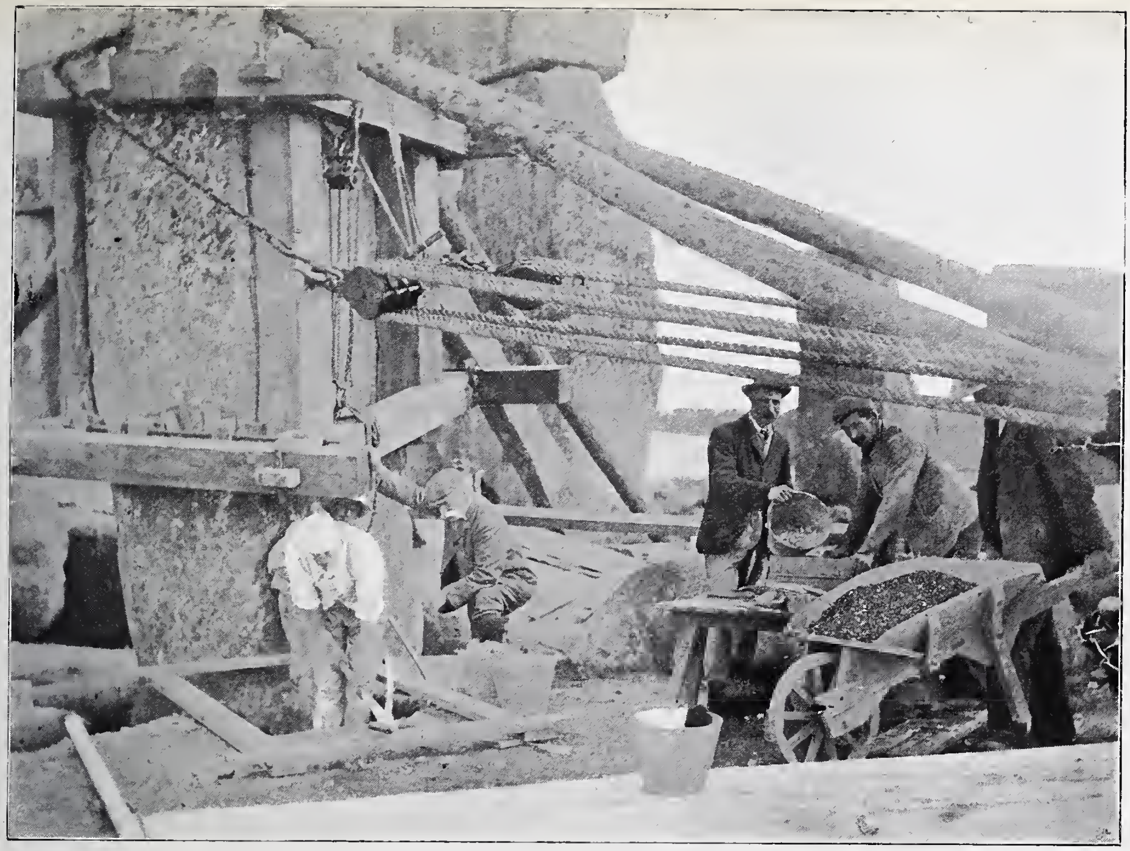


FIG. 4.—CUTTING THE SOIL IN SECTIONS 1 FOOT SQUARE, 6 INCHES DEEP.

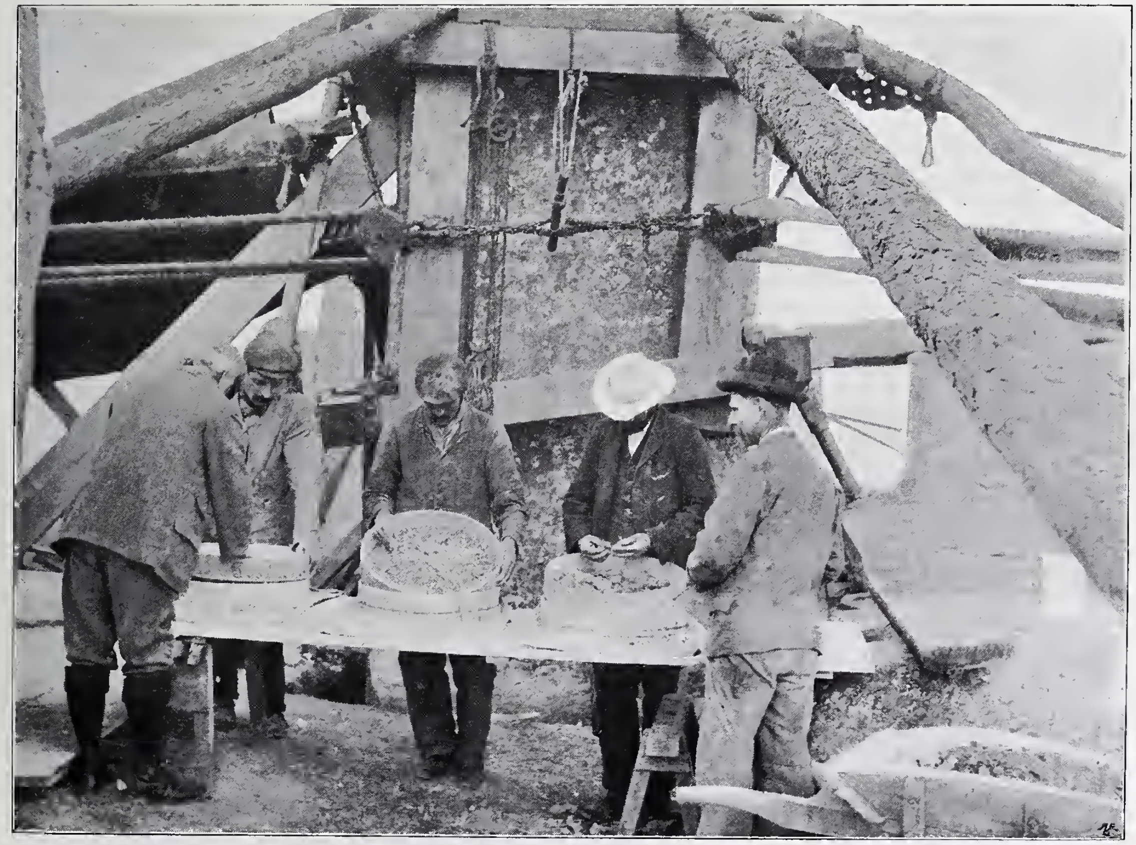


FIG. 5.—SIFTING SOIL THROUGH FOUR DIFFERENT MESHES DOWN TO $\frac{1}{2}$-INCH SIZE.

one. That of course applies, as I have said, to the temples the direction of which has been determined in the first instance by observations of *stars.*

Now it has been a well-understood tradition, ever since we can remember, that the people from Salisbury and other surrounding places went to observe the sunrise on the longest day of the year at Stonehenge. We therefore were perfectly justified in assuming that it was a solar temple, and one used for observation in the height of midsummer. But at dawn in midsummer in these latitudes the sky is so bright that we are not in the habit of seeing stars even if we get up in the morning to look for them; so that some other principle had to be adopted, and that was to point the temple directly to the point of the horizon at which the sun rose on that particular day of the year, and no other. And here a very important point comes in, viz. the time of the year and of the day of the year most easy to fix by astronomical observation. As a matter of fact the solstice, the position of the sun on the longest day, is the point most easily fixed. All we have to do is to observe the sun climbing the sky at noon, and setting more and more to the north as the summer comes along, until at the very height of the summer we have the extreme north-easterly point of the horizon reached, and the sun stands still. We have the solstice, when all we have to do is to put a row of stakes up, and so fix the solstitial line. Of course, after that you will find, as mankind has found generally, that the sun comes back next year to that same solstitial place of rising or setting. So that when you have once got your alignment for the rise of the sun at midsummer, you can determine absolutely the length of the year, and the beginning of each year as it comes round. Now, if there were no change in the position of the sun, that, of course, would go on for ever and ever; but, fortunately for archæologists, there is a slight change in the position of the sun; the planes of the ecliptic and of the Equator undergo a slight change in the angle included between them; as far as we know that angle has been gradually reducing for many thousands of years, so that, in the case of Stonehenge, if we wish to determine the date, having no stars to help us, the only thing that we can hope to get any information whatever from is the very slow change of this angle, and that, therefore, is the special point which Mr. Penrose and myself set out to study at Stonehenge, because, for the reasons that I have already stated to you, we seemed in a position to do it more conveniently there than anywhere else in the country.

Well, we made our observations, and we came to the conclusion that the avenue which is associated with the sarsen stones, and which is practically a prolongation of the axis of the sarsen stones, was laid down with the circle of sarsen stones about the year 1680 B.C. We state that it is impossible to fix the date nearer than 200 years, for the reason that the change in the inclination of these planes to which I have referred varies so slowly.

There is another thing I should like to point out: our ancestors (I suppose they were our ancestors) who were engaged on these works have been very much misrepresented, and held entirely in the wrong, by several people who have not considered what they were really driving at. It was absolutely essential for the inhabitants of Britain as it was then—townless, almost uncivilised—that the people who herded their sheep, or tried to gather their crops and sow their seed, should know something about the proper time for performing their agricultural operations. We now go into a shop and for a penny buy an almanack which gives us everything we want to know about the year, the month, and the day, and that is the reason why so few of us care about astronomy; we can get all we want from astronomy for a penny or twopence. But these poor people, unless they found out the time of the year and the month and the day for themselves, had absolutely no means of knowing when their various agricultural operations should take place. So that we find all over the world such temples as Stonehenge erected in the very first blush of civilisation. On that a point comes in of very considerable interest with special reference to Stonehenge. If we study the civilisations in Egypt, we find that so far as we know the first people who used this principle of orientation for agricultural purposes was some tribe or other that came down the Nile about 7,000 years B.C. They used the star Canopus, and their determination was that of the autumnal equinox, which practically was the time when the Nile began to go down, and when their sowing might begin. After that we find another race who, instead of being interested in the sun, in worshipping the sun, and therefore interested in agriculture, at the time of the autumnal equinox, were interested in the year about the time of Easter. This race built the Pyramids about four thousand years B.C. You see there was an interval of about two or three thousand years between these races. . And very shortly after that came another, who at Thebes started the solstitial worship; that is to say, the worship of the sun at midsummer, at the time when it was most easy to determine the length of the year, so as to enable them to go on with their agricultural operations in future years with greater certainty. Do not forget that first of all the farmers tried to plough and sow by the moon. You can see how hopeless agriculture must have been under such conditions. The month, indeed, was the only unit of time even of human life. We hear of people who lived "1,200 years," that means "1,200 months"—there is no question whatever about that now. When we look back in the history of our own country—when we come back from Egypt to Britain, leaving alone Greece and Rome—we find that in various times in our country we have had a year, a farmer's year, beginning in the month of May; we have had another farmer's year beginning in the month of August; we have had another farmer's year beginning at the longest day, and it appears that the year beginning at the longest day was really the last year to be introduced. So that you see, although Mr. Penrose and myself have been able to show, I think beyond all doubt, that we have in Stonehenge a solstitial temple—that is to say, a temple to take observations of the length of the year by observing the rise of the sun on the longest day of the year; in other parts of England there were other temples observing the sun, not on the 21st of June, but early in May and early in August; and it is possible that at some future time Mr. Penrose and myself, when we come to consider the other stones at Stonehenge besides the sarsen ring, may show that even Stonehenge has something to tell us on that point also.

Mr. F. C. PENROSE, F.R.S., D.Litt., D.C.L. [*F.*], said: Sir Norman Lockyer has given us a discourse which takes the wind entirely out of my sails; but there are a few observations I will make. One, I think, he did not observe—viz. that the avenue of Stonehenge, which has given us the clue more than any other part to arrive at its astronomical date, is exactly the counterpart of the lines of sphinxes which led to the entrances of many Egyptian temples. It is impossible to have studied these remains at Stonehenge without conceiving an extreme veneration for the monument, and I am rejoiced that so much attention is being paid to it, and that the repair of the temple has begun in a safe and legitimate manner by raising the leaning stone from a position of danger to one of its due majesty. We may perhaps hope that the external trilithon which fell down about a year ago may be put back into its position. I am sure, however, that the noble owner of the land at Stonehenge, whom Mr. Blow has served so extremely well, will take care that nothing too much is done. I attended, as doubtless others now present did, the evening at the Society of Antiquaries when Dr. Gowland described his observations during the works which have been lately done at Stonehenge. I gather, from what he said, that he had arrived at the conclusion, from the appearance of the tools found at Stonehenge, that the probable date is about 2,000 B.C. That is within our observation; that is to say, within a line of satisfactory *deviation*. Our 1700, with 200 plus or minus, comes, as near as one could possibly wish, to that estimate. An inspection of the tools placed before us on the table will show that many of them have been worn in the working. I should like to ask Mr. Blow one question. I understand, from Dr. Gowland's account of the works, that fragments both of the sarsens and of the blue stone, which is a kind of syenite, were found in the excavations. I should like to ask Mr. Blow if the chippings of the sarsen were of much greater abundance than the blue stone chippings. [Mr. Blow: Yes, they were.] Because it is possible, though by no means certain, that the blue stones may have been altered from their original position to suit the sarsens when they were put up. The quantity of the chips of the two materials may have a bearing upon that question. Syenite is very hard, and naturally there would be fewer chips of that, especially as the stones are smaller.

Mr. EMANUEL GREEN, F.S.A.: Sir, I should like to say a word upon the general appearance of Stonehenge. We have not had altogether a good representation of it to-night, no doubt because a photograph showing the entire monument is a difficult thing to obtain. Very much has been said regarding the object of the structure, and Sir Norman Lockyer and Mr. Penrose have of late come forward with their theories, which possibly are right; but, without any offence, I think it is well not to allow authority to influence our opinions too much, and so perhaps prevent further investigations and further thought on the subject. It is a good rule of life for all of us to observe. There is no doubt that visitors often do sleep at Amesbury and go over in the early morning of the 21st of June, and no doubt also that on that morning the sun comes up exactly where you would expect him to come; and following that result we decide that the intention of the building was a question of sun-worship. This sun-worship, which we call paganism, has not ceased to-day; it was absorbed into our own system, it is still under our own system, and in some parts very much more than in others. Sir Norman Lockyer mentioned that possibly the idea of Stonehenge arose as a sort of almanack—very much like the hieroglyphics in the penny almanack of to-day. As to this, it may be noted that there are thirty stones on the outer circle, and if we imagine that on every day of the month some religious or other observance took place at a different stone daily, we get something like Robinson Crusoe's notches; by going through the thirty stones we get our month. There is a thirty-first stone also, not exactly in the circle, for they found in the course of the year that they had five days too many, and so this thirty-first stone would be visited five times a year, by which the calculation was made to tally. Within this circle of thirty stones there is a semicircle or horseshoe formed of five stones, and it can be suggested here that these mark the course of the summer sun. Taking the eastern side, the sun would be found to rise just through it about our April, and this event being watched for and seen, the summer and seed-time commenced. Then presently—say in a month—the sun will be found

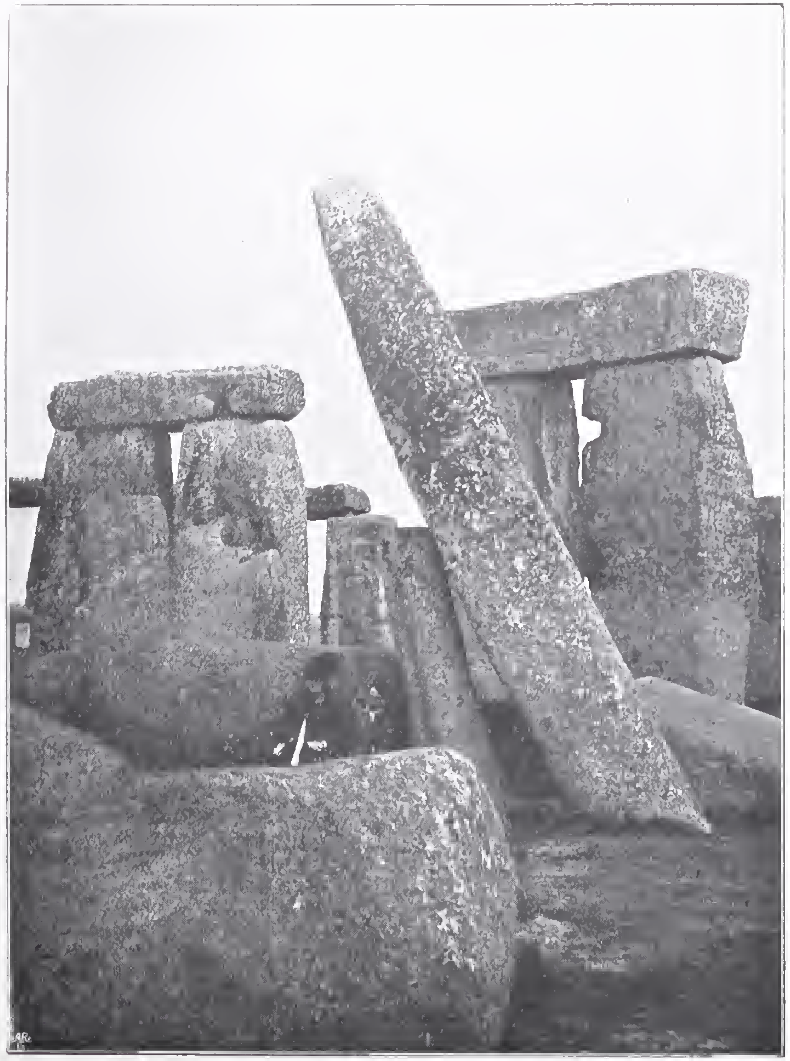


FIG. 6.—SIDE ELEVATION OF THE LEANING STONE.

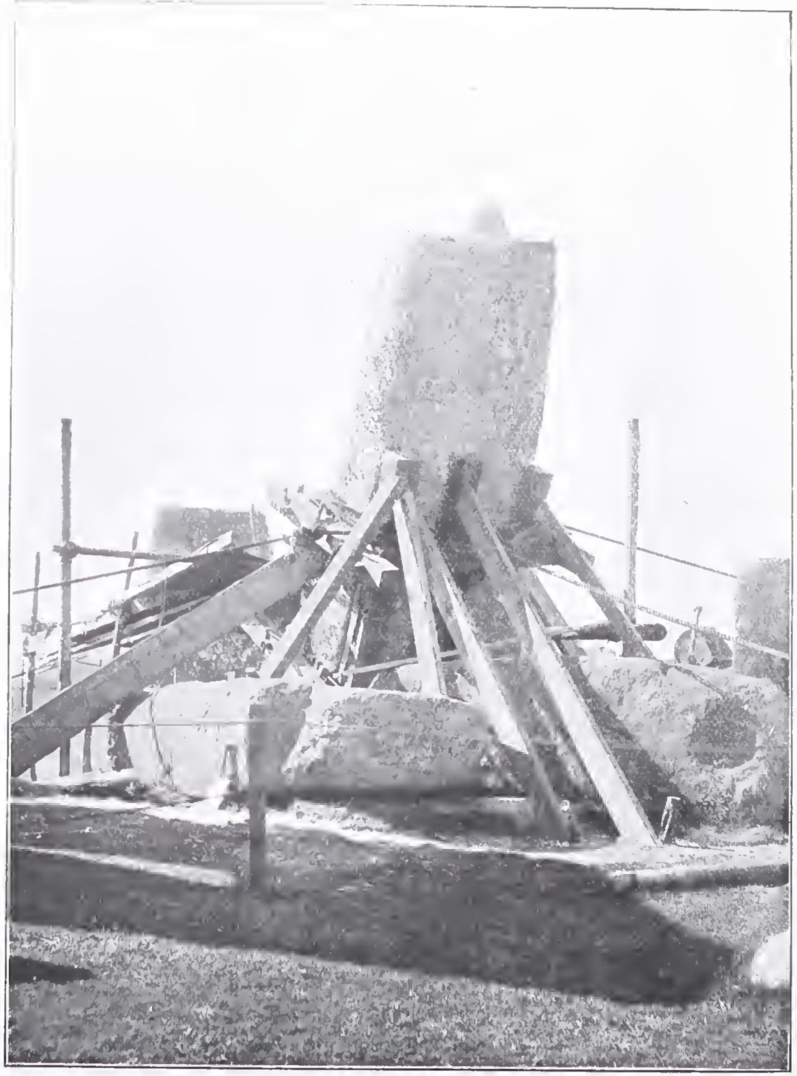


FIG. 7.—EAST VIEW OF THE LEANING STONE.

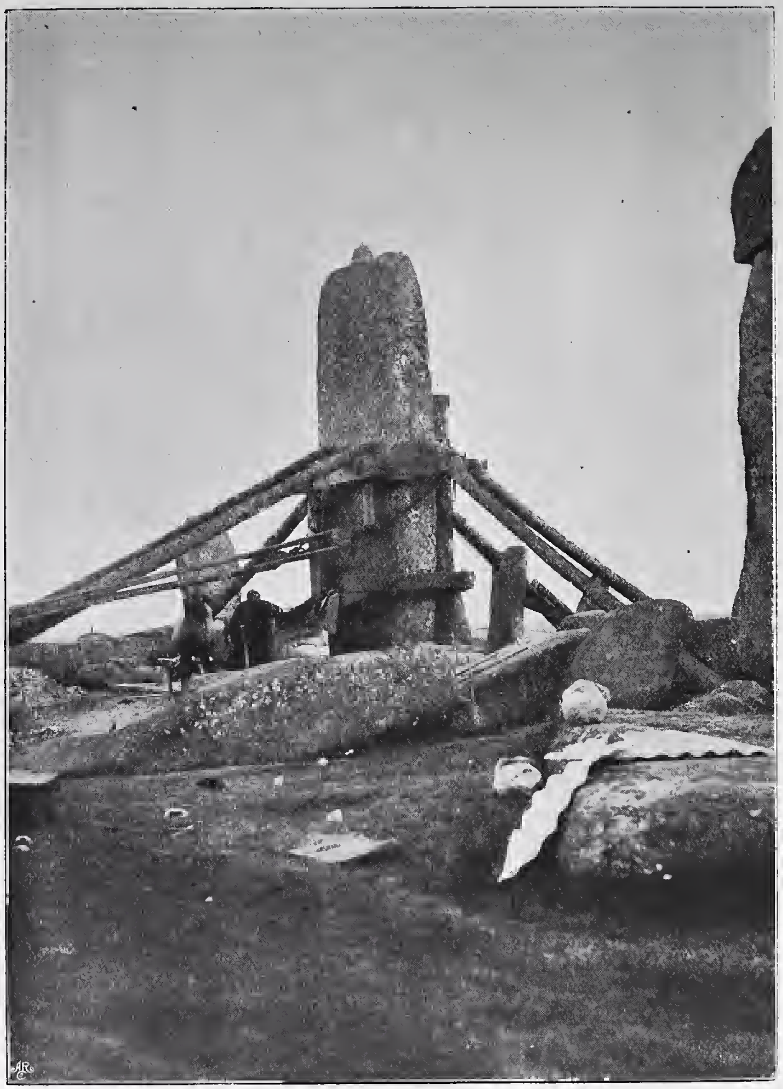


FIG. 8.—THE LEANING STONE UPRIGHT.

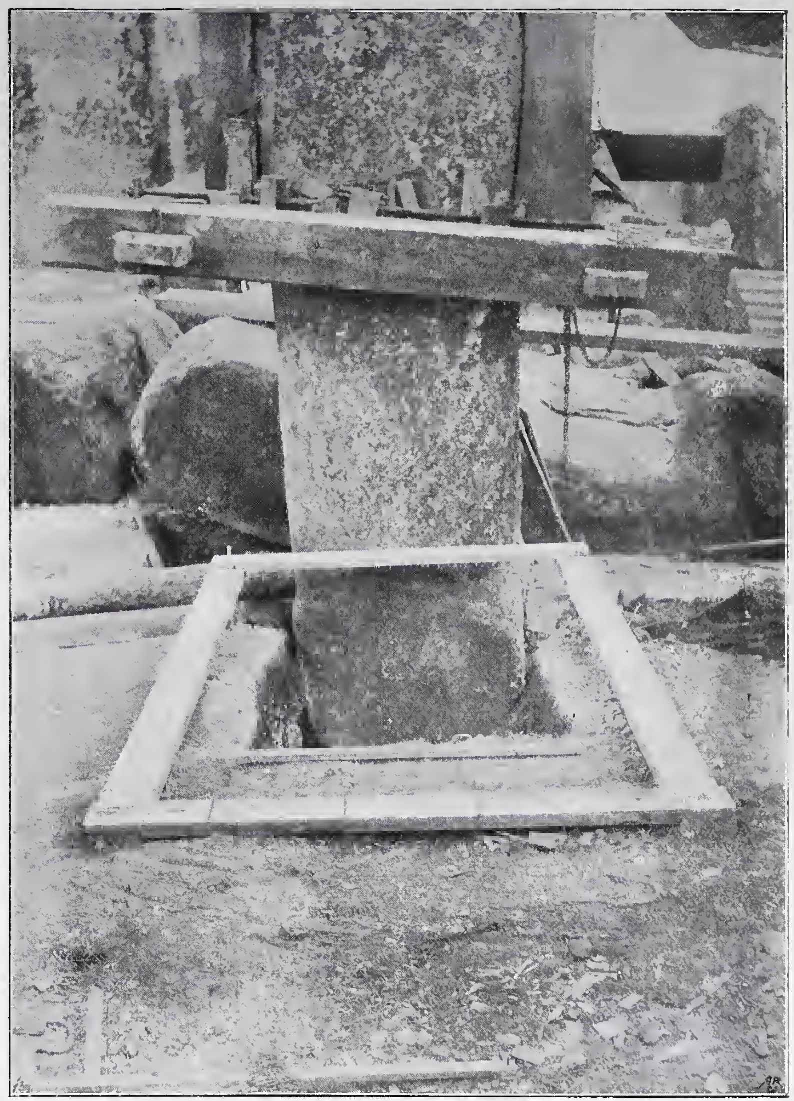


FIG. 9.—THE FRAME FOR REGISTERING THE FINDS.

to rise just through the next stone, a higher stone than the first, because the sun is now higher; the next, the centre, is the great, the highest of the whole, and through it at middle summer rises exactly the midsummer sun. Now the sun gradually lowers, and the stones westward are lowered. Watching through these now the setting sun, he is presently seen through the last, say about the end of our August, and the summer time, the time of growth and reproduction, is gone. The archæologist when he finds something the use of which he does not know must put to himself the question, Is the thing still existing elsewhere in its original use or in a similar use or state? And if he find that it is so he has something to go upon in forming a conclusion. It is rather a curious thing that in *The Earl and the Doctor*, a book published some years ago relating to a yacht voyage in the South Seas, the late Earl of Pembroke notices very plainly and very clearly (as he lived at Wilton, close to Stonehenge, of course he knew all about it) that he came across precisely the same thing going on in the Pacific Islands—viz. that when a man gets very old and very dirty and very poor he sets himself up for a priest, or what we should call a priest: he retires into solitude on high ground, and gets stones set up in a circle, with a stone avenue leading up to himself; and there he sits and receives cowrie-shells, or other equivalent for sovereigns. There is another thing connected with these structures which has never been noticed in regard to Stonehenge—viz. the spaces between the stones are, or have been, filled up with rubble. There are still in Scotland to-day buildings, whose use is not quite clear to us, with large stone uprights, large stones for the doorway, and large stones for the sills; and the spaces between are filled up with rubble. Then on the question of moving these stones. The Japanese plan shown on the screen is no doubt a real one; but in India can be seen to-day equally large stones moved in a manner which would recommend itself very much more to us, and to Salisbury Plain especially, where the ground is good for it—and there has been no alteration since. The stone is put upon rollers, on the plan one sees in moving an iron safe into a house sometimes: a roller is put in front on which the stone is rolled forward; then another man comes forward and puts another roller under, and so on. Some 200 men are thus harnessed, moving very slowly; what they do not do to-day they do to-morrow, and the stone eventually reaches its position. The question next arises: Whence came these stones? The answer must be left to geology rather than archæology; but the stones, we may fairly conclude, were there; there are sarsen stones there to-day—not so large, of course, but there they are, and they can sometimes be seen being broken up. There is no quarry in any known place from which they could have come, and they could not have been brought there. But we can understand that being there, or within a reasonable distance, they were placed in position in time. Then you have to compare Stonehenge with Avebury, which is fairly close by. At Stonehenge you have a worked stone. At Avebury the stones are much larger, perhaps because they are unworked, and so not reduced by being shaped. This is an important matter in relation to the Stonehenge work. It has always been a puzzle to everybody how these stones were worked, and it must still remain so for a little further investigation. The stones have been cut away on the top to leave a projecting part or point, and then the stone placed on the top is hollowed out in turn deep enough to take in that tenon. This in itself is a work which to us is very difficult and impossible practically to understand. The hammer, the stone chisel, &c., do not at all explain it. On the question of the date we must wait for a little further investigation. Mr. Story Maskelyne, a Wiltshire gentleman of no mean ability, has given considerable attention to this matter. To a pamphlet he printed, which I read some years ago, I am indebted for the more valuable suggestions noted. Mr. Maskelyne gave his reasons and figures freely; but he calculates its age at 2,900 years. Here we get a considerable difference of a thousand years, and yet the arguments given are equally clear and equally apparent. The Phœnicians coming to the district for tin, and coming from the eastern Mediterranean, where they were familiar with such stone work, may have taught the natives and also have given the architectural drawing. Clearly there had been some outside influence. In all these matters the more arguments we obtain, the more attention that consequently must be given to the subject, the more by degrees shall we approach the truth. As regards the orientation of our churches, mentioned by the lecturer, the chancel or eastern end was always built first, started on the morning of the saint's-day dedication, and sometimes a considerable time passed before the other part was commenced, and so their inclination would differ in accordance with the time of year at which the start was made.

Mr. W. H. ST. JOHN HOPE, M.A.: I cannot claim, Sir, to have made these megalithic and rude monuments my study as I have monuments of a later date; but, like many others who have visited Stonehenge, I have been struck with astonishment at the stupendous character of the monument itself, and have wondered why it was made and how it was built, and I wanted an answer to a number of questions. I have tried to get an answer by reading a great deal of the vast quantity of matter that has been written about Stonehenge; but there are so many theories put forth by different writers that one leaves off in the same state of not knowing any-

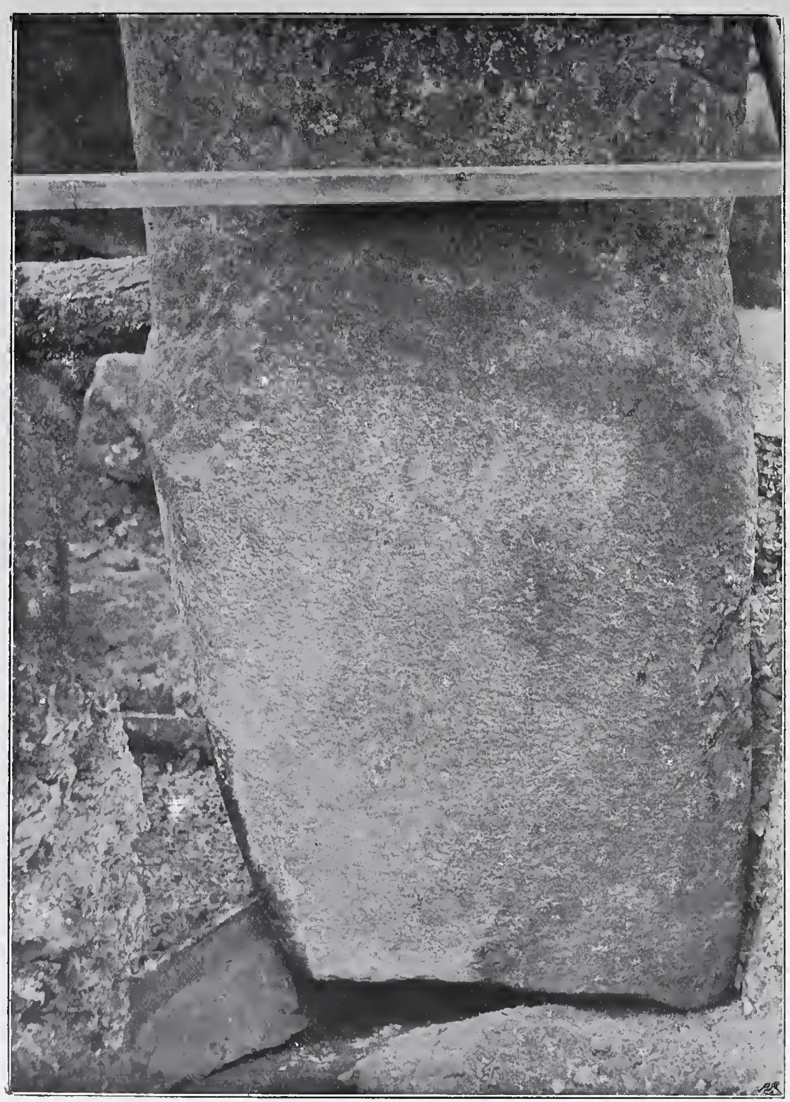


FIG. 10.—EXPOSED SURFACE OF BASE OF PILLAR, 8 FEET BELOW GROUND, SHOWING THE HIGH FINISH OF THE WORK.

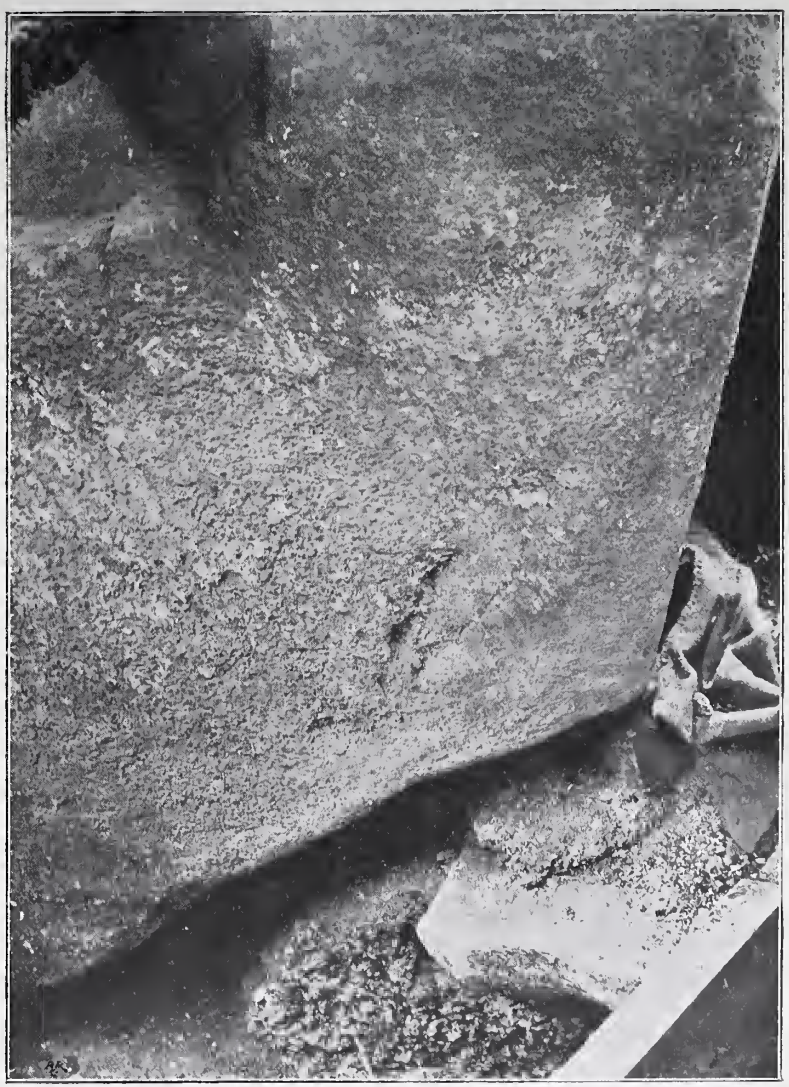


FIG. 11.—THE BASE OF THE PILLAR WORKED 8 FEET 6 INCHES UNDER GROUND, SHOWING SURFACE OF STONE.

thing that one started with. The recent work at Stonehenge has shown the enormous value of investigation by means of the pick and spade. For two or three centuries at least men have wasted their time and brains by putting their theories on to paper, all to no purpose; and here in one little excavation within the space of a few days a very great deal has been set absolutely at rest. It is quite clear, from the material exhibited here to-night, that we can get some indication as to the date. I am sorry Mr. Gowland is not here to give us details about the discovery of these things, and the facts he has deduced from them; but as regards the date he argues that there can be no doubt whatever that these various tools, the small hammers and the large mauls, and the flint implements which were used for dressing the harder stones, belong to a period of transition from the Stone age to the Bronze age; and he does not dispute, so far as I can learn in conversation with him, the fact that this monument may even belong to the Early Bronze age; but he says that we can satisfactorily account for the absence of bronze tools by the simple reason that bronze tools would be utterly useless to work the stones of Stonehenge. Bronze would have no effect upon the hard sarsens; and naturally it would have no effect whatever upon the still harder blue stones. So that, although it is possible that further investigations may bring to light some bronze things that have been dropped, the tools which have been used in working the stones at Stonehenge were stone implements. The plan shows what a very small area has been already touched by way of this scientific investigation; and if that area has brought to light so much, it is likely that something more will be revealed when those investigations are extended further, as they probably will be. At present antiquaries are not agreed as to the date. Some of the French antiquaries, I believe, would take it as far back as Mr. Gowland is inclined to put it, and others will not allow a date of so remote a period; but it is satisfactory to find that, arguing from two totally different lines of research—that of the evidence of the tools which have been found and the astronomical data that Sir Norman Lockyer has so clearly explained to us—we do get what appears to be an average mean. The excavations have also set at rest another point. People have put forward theories about Stonehenge being a work of different dates. Some antiquaries argue that the blue stones were in position first, and the others added afterwards; and others have asserted the contrary. These excavations have definitely established the fact that the whole monument is of one time of erection. In every one of these excavations, I gather from Mr. Gowland, the bluestone chippings and the sarsen chippings have been found mixed up together, even down to the lowest depth, which was 8 feet from the surface; and that proves the fact beyond any doubt. Then there was some interesting evidence brought to light as to how Stonehenge was built. The section exhibited giving the side views of the leaning stone show that behind it there is a block of live chalk rock, but in front of that Mr. Gowland told me he did not find any such chalk rock, but it is to be recovered again some distance away nearer the centre of the monument; and he argues from that (although he has not been able yet to get any more evidence) that these great stones were got into position first by sinking the hole into which the stone was eventually to go, and then cutting away one side to form an inclined plane; that the great stone was then got into its place at the head of the incline, by rollers or otherwise, and then slid down into the hole, which thus partly brought it up into a sloping position, and then, by means of wooden levers, it was raised up and packing put underneath it, and so by degrees it was lifted into a vertical position. It is quite easy to see that given unlimited labour those stones could have been set up in that way without any difficulty. But then there comes the question how the lintels were put up. Now, one of the theories I never could understand was the one that presupposed the raising of a large earthen incline up which the stone was rolled. There are certainly no signs upon the down of any material having been brought up for that purpose, and the people who have enunciated that theory have quite overlooked one fact—that in order to bear the weight of a great stone rolling up it that bank would have had to be of an enormous size, and must have had a considerable time to settle. But in conversation with Mr. Gowland on this point, he has suggested a way which is ingenious, and one can see that it is possible that it was so done. He argues that just in the same way that people begin to build a house in Japan by building the roof first and then the house underneath it, in the same way they put up these great trilithons at Stonehenge by lifting the great lintel, by means of packing, until they got it into its approximate position in the air, and that then, by lifting up the vertical stones in the manner I have described, and getting them into position underneath the lintel, the lintel could be dropped into its place on to the two uprights by the simple process of removing the packing; then the same packing could be used for another set of stones, and when the whole monument was erected the packing was taken away, and the whole site left clear. There is one point I should like to ask about, especially as Sir Norman Lockyer and Mr. Penrose are both present. In the paper which they recently read before the Royal Society on the question of the orientation of Stonehenge, they said that there can be no doubt whatever that Stonehenge was roofed in. I should very much like to know how Stonehenge could be roofed in. Looking at it purely from a layman's point of view, I cannot imagine any way by which Stonehenge could have

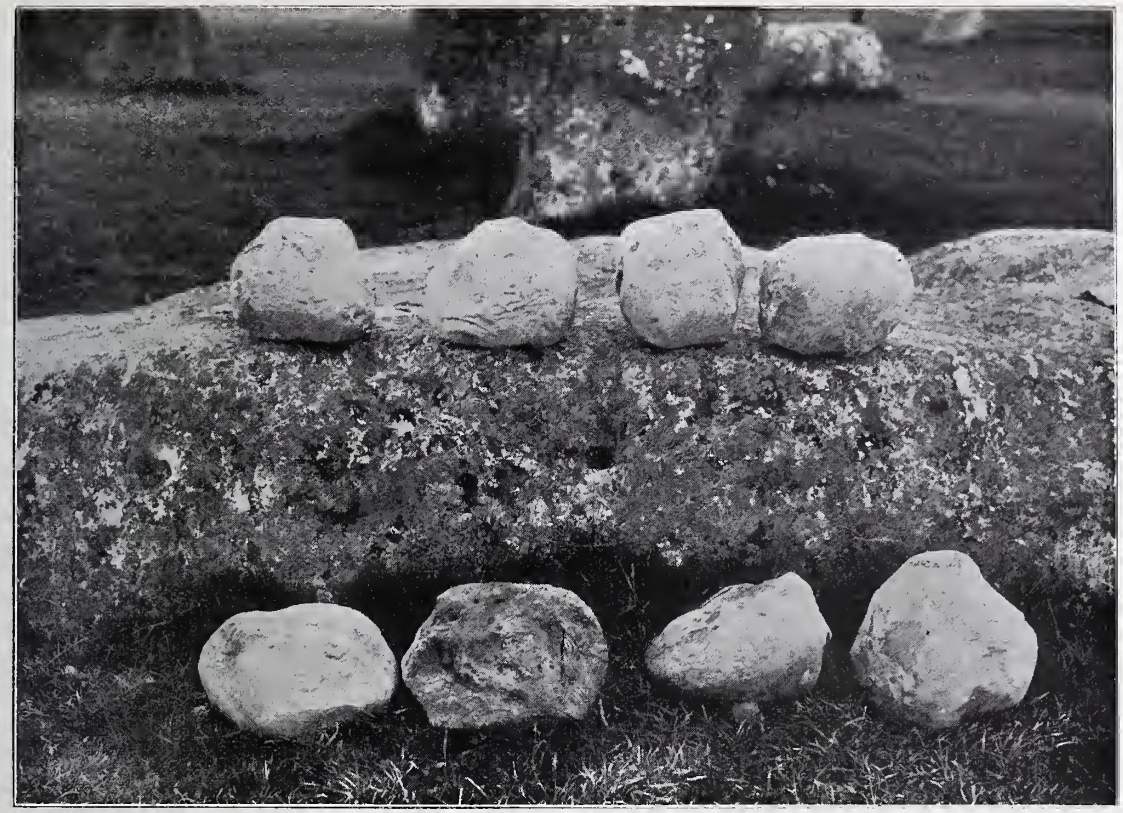


FIG. 12.—HAMMERS.

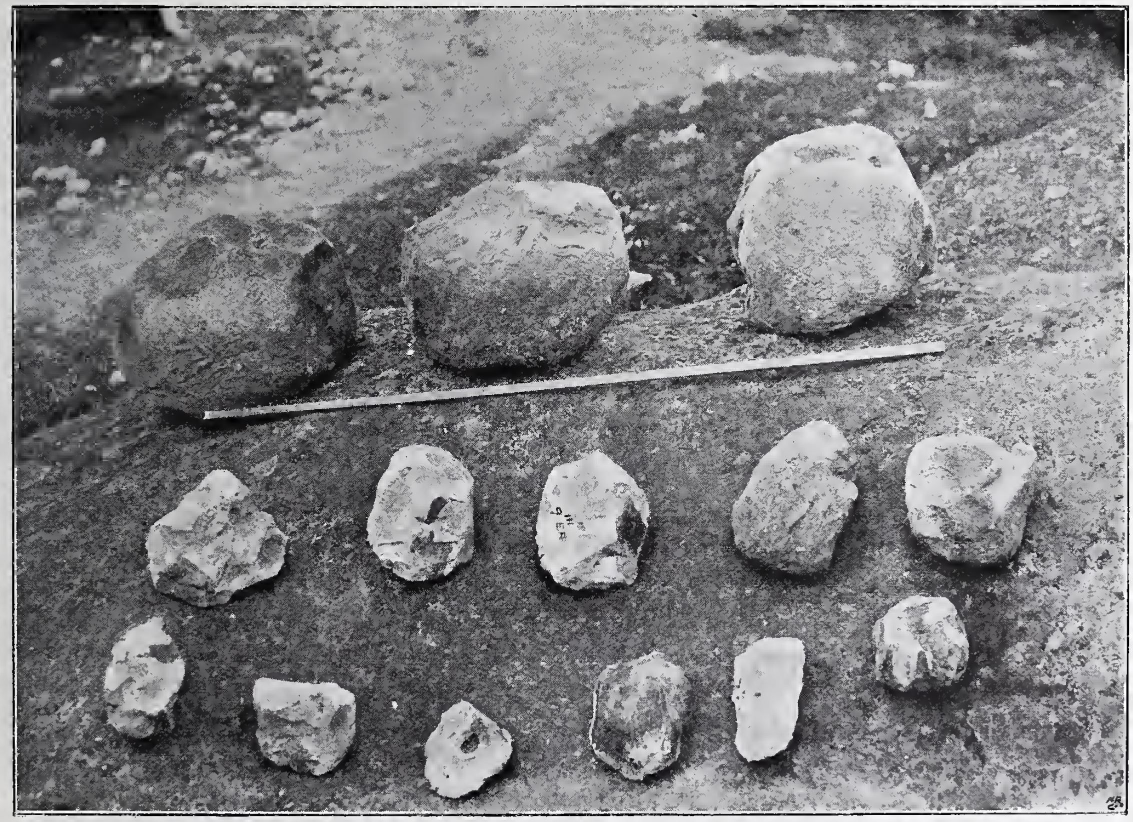


FIG. 13.—FLINTS FOR CUTTING SOFTER STONES.

a wooden roof on it which would have other than an outward thrust, which the stones are not calculated to bear; and there are certainly no marks on any of the existing stones of any woodwork, nor are there any signs of rubble filling-in between the uprights, or, in fact, any evidence whatever other than that the stones stood always by themselves quite clearly as they do now. I can imagine how Stonehenge could be roofed in one other way, and that is by a great roof of skins after the manner of a travelling circus. In that way the sag of the skin roof would be from the outside, and it would be less dangerous to the structure of Stonehenge, and have less tendency to throw the outer ring over than the other method would. But, so far as my own humble opinion goes, I fail to see how Stonehenge could have been roofed in, and I should very much like to know what Mr. Penrose's view, as an architect, is upon that question.

Mr. PENROSE: With regard to the point about the roofing in, my impression is that it was stated "probably"—and I think it probably was—but that it was covered not by an apex roof, like a Greek temple, but with flat logs of wood, which could easily have been placed there, and covered with turf or in any other way, so long as the light was blocked out and a dark sanctuary was obtained. But with regard to the lifting of the stones it seems to me that there need be no very great question. Very much larger stones than the great lintels at Stonehenge, or even the standards themselves, have been lifted up in early days; there is in the so-called Treasury of Atreus at Mycenæ a stone twice the size or more, weighing at least 150 tons, lifted up to a great height; and at Baalbec there are stones twenty times the weight of these great stones lifted higher than the walls of this room. I think if they simply had levers, and with no limit of time or numbers to deal with, they could have done it by that method; and there are several other ways of lifting stones that might be suggested.

The CHAIRMAN said he was quite sure the country was to be congratulated on having somebody to superintend the work and take the religious care over it that Mr. Gowland had shown in the excavations at Stonehenge. The scrupulous care with which he had mapped out the ground and preserved and allocated to its proper place every small coin and piece of flint implement discovered there showed that the work could not have been placed in better hands. Mr. Blow's Paper and description of the slides were extremely interesting, as were also the astronomical data and details in connection with the monument given by Sir Norman Lockyer.—The Chairman concluded by moving a hearty vote of thanks to Mr. Blow for his Paper, which was carried by acclamation.

Mr. DETMAR BLOW, in responding, answered some of the questions raised during the discussion. With regard to Mr. Penrose's question about the stone, they were at the time digging round sarsen stone. From the small excavation so far carried out, one would gather that the whole place must have been strewn with chips; in fact, wherever they dug they found a quantity of chips of all kinds. Mr. Penrose had answered the question about raising the lintels. There were plenty of ways by which it might be done. If there were a mound by the structure it would be easy to get the pillars up and drop them into the ground. In the centre of the horseshoe at Stonehenge, round which the five trioliths had been erected, the ground must have been a sandy mound from which great baulks of timber could have been put on to the pillars, and the lintels slid up or rolled up in some way. The suggestion as to the roofing commended itself in every way; the fact that the west trilithon was so much higher than the two going towards the east suggested at once a fall for rain going from west to east. In conclusion, the speaker expressed his great regret that Mr. Gowland had been unable to be present that evening. He could not speak too highly of the splendid way in which he had conducted the excavation. He (the speaker) would impress upon young architects that it was their sacred duty, if they came across any kind of remains, to see that they were taken the greatest care of, and investigated. So often one heard that the builder had turned up some interesting relic, and had not troubled to find out anything about it, and the whole thing had been lost. In carefully investigating the sites of ecclesiastical or monastic buildings, or castles built for defensive purposes, it often happened that remains were discovered of buildings of a much earlier civilisation. On pulling down lately a Georgian house a Norman keep had been discovered, and on excavating further they found neolithic implements; so that on that site alone there were three distinct stages of building. One could not be too careful in making researches of this kind. He wished everyone present could have seen the care with which Mr. Gowland sifted the soil turned up in the Stonehenge excavation. If the same care had been bestowed on the work in other places not only in England but in Egypt a great many things that were now hazy would have been cleared up.

The Chairman having mentioned that Mr. Penrose had lately presented to the Institute a copy of the Paper which he and Sir Norman Lockyer had read to the Royal Society, Colonel Lenox Prendergast suggested that it would be valuable for this discussion to have the Paper printed in the Institute Journal. The permission of the Royal Society having since been obtained, the Paper is printed on following pages.

AN ATTEMPT TO ASCERTAIN THE DATE OF THE ORIGINAL CONSTRUCTION OF STONEHENGE FROM ITS ORIENTATION.

By Sir Norman Lockyer, K.C.B., F.R.S., and F. C. Penrose, F.R.S.

[*Reprinted by permission from the* Proceedings of the Royal Society, Vol. LXIX. No. 452, 19 *Nov.* 1901.]

THIS investigation was undertaken in the spring of the present year, as a sequel to analogous work in Egypt and Greece, with a view to determine whether the orientation theory could throw any light upon the date of the foundation of Stonehenge, concerning which authorities vary in their estimates by some thousands of years. We beg to lay before the Royal Society the results derived from a careful study of its orientation for the purpose of arriving at the probable date of its foundation astronomically. This is not, indeed, the first attempt to obtain the date of Stonehenge by means of astronomical considerations. In Mr. Godfrey Higgins's work * he refers to a method of attack connected with precession. This furnished him with the date 4000 B.C.

More recently, Dr. W. M. Flinders Petrie,† whose accurate plan is a valuable contribution to the study of Stonehenge, was led by his measures of the orientation to a date very greatly in the opposite direction, but, owing to an error in his application of the change of obliquity, clearly a mistaken one.

As the whole of the argument which follows rests upon the assumption of Stonehenge having been a solar temple, a short discussion of the grounds of this view may not be out of place; and, again, as the approximate date which we have arrived at is an early one, a few words may be added indicating the presence in Britain at that time of a race of men capable of designing and executing such work.

As to the first point, Diodorus Siculus (ii. 47) has preserved a statement of Hecatæus in which Stonehenge alone can by any probability be referred to.

"We think that no one will consider it foreign to our subject to say a word respecting the Hyperboreans.

"Amongst the writers who have occupied themselves with the mythology of the ancients, Hecatæus and some others tell us that opposite the land of the Celts [ἐν τοῖς ἀντιπέραν τῆς κελτικῆς τόποις] there exists in the Ocean an island not smaller than Sicily, and which, situated under the constellation of The Bear, is inhabited by the Hyperboreans; so called because they live beyond the point from which the North wind blows. . . . If one may believe the same mythology, Latona was born in this island, and for that reason the inhabitants honour Apollo more than any other deity. A sacred enclosure [νῆσον] is dedicated to him in the island, as well as a magnificent circular temple adorned with many rich offerings. . . . The Hyperboreans are in general very friendly to the Greeks."

The Hecatæus above referred to was probably Hecatæus of Abdera, in Thrace, fourth century B.C.; a friend of Alexander the Great. This Hecatæus is said to have written a history of the Hyperboreans: that it was Hecatæus of Miletus, an historian of the sixth century B.C., is less likely.

As to the second point, although we cannot go so far back in evidence of the power and civilisation of the Britons, there is an argument of some value to be drawn from the fine character of the coinage issued by British kings early in the second century B.C., and from the statement of Julius Cæsar (*De Bello Gallico*, vi. 13) that in the schools of the Druids the subjects taught included the movements of the stars, the size of the earth, and the nature of things (Multa præterea de sideribus et eorum motu, de mundi magnitudine, de rerum natura, de deorum immortalium vi ac potestate disputant et juventuti tradunt).

Studies of such a character seem quite consistent with, and to demand, a long antecedent period of civilisation.

The chief evidence lies in the fact that an "avenue," as it is called, formed by two ancient earthen banks, extends for a considerable distance from the structure, in the general direction of the sunrise at the summer solstice, precisely in the same way as in Egypt a long avenue of sphinxes indicates the principal outlook of a temple.

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* *The Celtic Druids.* 4to. London, 1827.

† *Stonehenge*, &c., 1880.

These earthen banks defining the avenue do not exist alone. As will be seen from the plan which accompanies this Paper, there is a general common line of direction for the avenue and the principal axis of the structure, and the general design of the building, together with the position and shape of the Naos, indicate a close connection of the whole temple structure with the direction of the avenue. There may have been other pylon and screen equivalents as in ancient temples, which have disappeared, the object being to confine the illumination to a small part of the Naos. There can be little doubt, also, that the temple was originally roofed in, and that the Sun's first ray, suddenly admitted into the darkness, formed a fundamental part of the cultus.

While the actual observation of sunrise was doubtless made within the building itself, we seem justified in taking the orientation of the axis to be the same as that of the avenue, and since in the present state of the S.W. trilithon the direction of the avenue can probably be determined with greater accuracy than that of the temple axis itself, the estimate of date in this Paper is based upon the orientation of the avenue. Further evidence will be given, however, to show that the direction of the axis of the temple, so far as it can now be determined, is sufficiently accordant with the direction of the avenue.

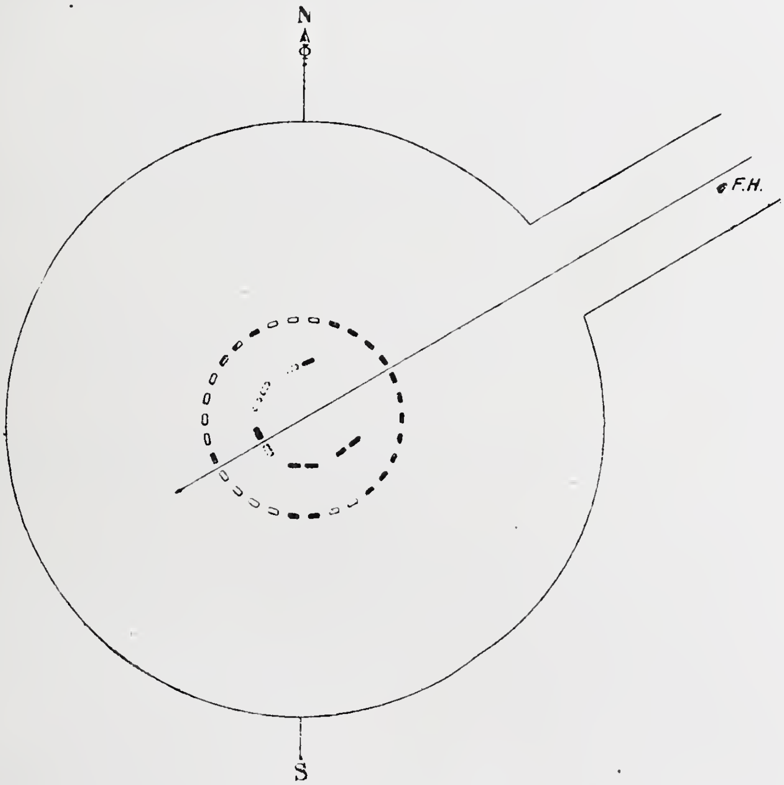
The orientation of this avenue may be examined upon the same principles that have been found successful in the case of Greek and Egyptian temples—that is, on the assumption that Stonehenge was a solar temple, and that the greatest function took place at sunrise on the longest day of the year. This not only had a religious motive; it had also the economic value of marking officially and distinctly that time of the year and the beginning of an annual period.

It is, indeed, probable that the structure may have had other capabilities, such as being connected with the equinoxes or the winter solstice; but it is with its uses at the summer solstice alone that this Paper deals.

There is this difference in treatment between the observations required for Stonehenge and those which are available for Greek or Egyptian solar temples—viz. that in the case of the latter the effect of the precession of the equinoxes upon the stars, which as warning clock stars were almost invariably connected with those temples, offers the best measure of the dates of foundation; but here, owing to the brightness of twilight at the summer solstice, such a star could not have been employed, so that we can rely only on the secular changes of the obliquity as affecting the azimuth of the point of sunrise. This requires the measurements to be taken with very great precision, towards which care has not been wanting in regard to those which we submit to the Society.

The main architecture of Stonehenge consisted of an external circle of about 100 feet in diameter, composed of thirty large upright stones, named sarsens, connected by continuous lintels, and an inner structure of ten still larger stones, arranged in the shape of a horseshoe, formed by five isolated trilithons. About one-half of these uprights have fallen and a still greater number of the lintels which they originally carried. There are also other lines of smaller upright stones, respecting which the only point requiring notice in this Paper is that none of them would have interrupted the line of the axis of the avenue. This circular temple was also surrounded by an earthen bank, also circular, of about 300 feet in diameter, interrupted towards the north-east by receiving into itself the banks forming the avenue before mentioned, which is about 50 feet across. Within this avenue, and, looking north-east from the centre of the temple, at about 250 feet distance and considerably to the right hand of the axis, stands an isolated stone, which from a mediæval legend has been named the Friar's Heel.

The axis passes very nearly centrally through an intercolumniation (so to call it) between two uprights of the external circle and between the uprights of the westernmost trilithon as it originally stood. Of this trilithon the southernmost upright with the lintel stone fell in the year 1620, but the companion survived as the leaning stone which formed a conspicuous and picturesque object for many years, but happily now restored to its original more dignified and safer condition of verticality. The inclination of this stone, however, having taken place in the direction of the axis of the avenue, and as the distance between it and its original companion is known both by the analogy of the two perfect trilithons and by the measure of the mortice holes on the lintel they formerly supported, we obtain by bisection the measure (viz. 11 inches) from its edge of a point in the continuation of the central axis of the avenue and temple, and which has now to be determined very accurately. The banks which form the avenue have suffered much degradation. It appears from Sir Richard Colt Hoare's account that at the beginning of the last century they were distinguishable for a much greater distance than at present, but they are still discernible, especially on the northern side, for more than 1300 feet from the centre of the temple, and particularly the line of the bottom of the ditch from which the earth was taken to form the bank, and which runs parallel to it. Measurements taken from this line assisted materially those taken from the crown of the bank itself. With this help and by using the southern bank and ditch whenever it admitted of recognition, a fair estimate of the central line could be arrived at. To verify this, two pegs were placed at points 140 feet apart along the line near the commencement of the avenue, and four others at distances averaging 100 feet apart nearer the further recognisable extremity, and their directions were measured with the theodolite, independently by two observers, the reference point being Salisbury Spire, of which the exact bearing from the centre of the temple had been kindly supplied by Colonel Johnston, R.E., the Director-General of the Ordnance Survey. The same was also measured locally by observations of the Sun and of Polaris; the mean of which differed by less than 20″ from the Ordnance value. The resulting observations gave for the axis of the avenue nearest the commencement an azimuth of 49° 38′ 48″, and for that of the more distant part 49° 32′ 54″. The mean of these two lines, drawn from the central interval of the great trilithon already referred to, passes between two of the sarsens of the exterior circle, which have an opening of about 4 feet, within a few inches of their middle point, the deviation being northwards. This may be considered to prove the close coincidence of the original axis of the temple with the direction of the avenue.



GENERAL PLAN OF STONEHENGE.

This value of the azimuth, the mean of which is 49° 35′ 51″, is confirmed by the information, also supplied from the Ordnance Survey, that from the centre of the temple the bearing of the principal bench mark on the ancient fortified hill, about 8 miles distant, a well-known British encampment named Silbury or Sidbury, is 49° 34′ 18″, and that the same line continued through Stonehenge to the south-west strikes another ancient fortification, namely, Grovely Castle, about 6 miles distant and at practically the same azimuth, viz., 49° 35′ 51″. For the above reasons 49° 34′ 18″ has been adopted for the azimuth of the avenue.

The present solstitial sunrise was also watched for on five successive mornings, viz , June 21 to 25, and was successfully observed on the latter occasion. As soon as the Sun's limb was sufficiently above the horizon for its bisection to be well measured, it was found to be 8′ 40″ northwards of the peak of the Friar's Heel, which was used as the reference point, the altitude of the horizon being 35′ 48″. The azimuth of this peak from the point of observation had been previously ascertained to be 50° 39′ 5″, giving for that of the Sun when measured, 50° 30′ 25″, and by calculation that of the Sun with the limb 2′ above the horizon should be 50° 30′ 54″. This observation was therefore completely in accordance with the results which had been obtained otherwise.

The time which would elapse between geometrical sunrise, that is, with the upper limb tangential with the horizon, and that which is here supposed, would occupy about 17 seconds, and the difference of azimuth would be 3′ 15″.

The remaining point is to find out what value should be given to the Sun's declination when it appeared showing itself 2′ above the horizon, the azimuth being 49° 34′ 18″.

The data thus obtained for the derivation of the required epoch are these :—

(1) The elevation of the local horizon at the sunrise point seen by a man standing between the uprights of the great trilithon (a distance of about 8,000 feet) is about 35′ 30″, and 2′ additional for Sun's upper limb makes 37′ 30″.

(2) — Refraction + parallax, 27′ 20″.

(3) Sun's semi-diameter, allowance being made for greater eccentricity than at present, 15′ 45″.

(4) Sun's azimuth, 49° 34′ 18″, and N. latitude, 51° 10′ 42″.

From the above data the Sun's declination works out 23° 54′ 30″ N., and by Stockwell's tables of the obliquity, which are based upon modern determinations of the elements of the solar system,* the date becomes 1680 B.C.

It is to be understood that on account of the slight uncertainty as to the original line of observation and the very slow rate of change in the obliquity of the ecliptic, the date thus derived may possibly be in error by ± 200 years.

In this investigation the so-called Friar's Heel has been used only as a convenient point for reference and verification in measurement, and no theory has been formed as to its purpose. It is placed at some distance, as before mentioned, to the south of the axis of the avenue, so that at the date arrived at for the erection of the temple the Sun must have completely risen before it was vertically over the summit of the stone. It may be remarked, further, that more than 500 years must yet elapse before such a coincidence can take place at the beginning of sunrise.

We give in an appendix certain details of the observations.

We have to express our thanks to Sir Edmund Antrobus, Bart., for much kind assistance during our survey; and to A. Fowler and Howard Payn, Esqs., for skilful and zealous co-operation in the measurements and calculations. As already stated, Colonel Duncan A. Johnston, R.E., Director-General of the Ordnance Survey, has also been good enough to furnish us with much valuable information, for which our best thanks are due.

Appendix.

The instrument chiefly employed was a 6-inch transit theodolite by Cooke, with verniers reading to 20″ in altitude and azimuth. Most of the observations were made at two points very near the axis, which may be designated by *a*, *b*. Station *a* was at a distance of 61 feet to the south-west of the centre of the temple, and *b* 364 feet to the north-east. The distance from the centre of Stonehenge to Salisbury Spire being 41,981 feet, the calculated corrections for parallax at the points of observation with reference to Salisbury Spire are :—

Station *a* + 4′ 12″.
„ *b* −25 20.

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* *Smithsonian Contributions to Knowledge*, vol. xviii. No. 232, table 9. Washington, 1873.

(1.) *Relative Azimuths.*—Theodolite at station *a*—

Salisbury Spire	0	0	0
N. side of opening in N.E. trilithon of the external ring	237	27	40
Tree in middle of clump on Sidbury Hill	237	40	20
Highest point of Friar's Heel	239	47	25
S. side of opening in N.E. trilithon	240	14	40
Middle „ „ „	238	51	10

(2.) *Absolute Azimuths.*—All the azimuths were referred to that of Salisbury Spire, the azimuth of which was determined by observations of the Sun and Polaris.

(*a.*) *Observation of Sun, June* 23, 1901, 3.30—3.40 P.M.

Mean of observed altitudes of Sun		41°	26′	35″
Refraction	− 1′ 4″	0	0	58
Parallax	+ 6			
True altitude of Sun's centre		41	25	37

Latitude = 51° 10′ 42″. Sun's declination = 23° 26′ 43″. Using the formula

$$\cos^2 \tfrac{1}{2}A = \frac{\sin \frac{1}{2}(\Delta+c-z) \sin \frac{1}{2}(\Delta+z-c)}{\sin c \, . \, \sin z}$$

where A = azimuth from south, Δ = polar distance,
c = co-latitude, and z = zenith distance,

we get

Azimuth of Sun	S. 75°	30′	30″	W.
Mean circle reading on Sun	84	38	35	
Azimuth of Salisbury Spire	S. 9	8	5	E.

(*b.*) *Observations of Polaris.*—June 23, 1901. Time of greatest easterly elongation, calculated by formula $\cos h = \tan \phi \cot \delta$ is G.M.T. 1.34 A.M.

Azimuth at greatest easterly elongation, calculated by the formula

$$\sin A = \cos \delta \sec \phi,$$

is 181° 57′ 0″ from south.

Observed maximum reading of circle	256°	33′	0″	
True azimuth of star	181	57	0	
Meridian (S.) reading of circle	74	36	0	
Circle reading on Salisbury Spire	65	28	0	
Azimuth of Salisbury Spire	S. 9	8	0	E.

The mean of the two determinations gives for the azimuth of Salisbury Spire S. 9° 8′ 2″ E. This result agrees well with the value of the azimuth communicated by the Ordnance Survey Office, namely, 9° 4′ 8″ from the centre of the circle, which, being corrected by +4′ 12″ for the position of station *a*, is increased to 9° 8′ 20″.

Hence from the point of observation *a* 9° 8′ 20″ has been adopted as the azimuth of Salisbury Spire.

We thus get the following absolute values of the principal azimuths from the point *a*:

Highest point of Friar's Heel		239°	47′	25″	
	−	9	8	20	
		230	39	5	
	or N.	50	39	5	E.
Middle of opening in N.E. trilithon		238	51	10	
	−	9	8	20	
		229	42	50	
	or N.	49	42	50	E.

The difference of 8½′ between this and the assumed axis 49° 34′ 18″ is so slight that, considering the indirect method which has necessarily been employed in determining the axis of the temple from the position of the leaning stone, and the want of verticality, parallelism, and straightness of the inner surfaces of the opening in the N.E. trilithon, we are justified in adopting the azimuth of the avenue as that of the temple.

Next, with regard to the determination of the azimuth of the avenue as indicated by the line of pegs to which reference is made in the body of the Paper. The small angle between the nearest pegs A and B (which are supposed to be parallel to the axis of the avenue), observed from station *a*, was measured, and the corresponding calculated correction was applied to the ascertained true bearing of the more distant peg B.

Thus

True bearing of peg B	=	238°	35′	0″
Calculated correction to peg A	=	0	12	8
True bearing of line AB		238	47	8
Bearing of Salisbury Spire		189	8	20
True bearing of a line parallel to the axis of near part of avenue	N.	49	38	48 E.

The mean of the three independent determinations by another observer was 49° 39′ 6″.

The calculated bearing of the more distant part of the axis of the avenue determined in the same manner by observations from station *b* is 49° 32′ 54″. The mean of the two, namely, 49° 35′ 51″, justifies the adoption of the value 49° 34′ 18″ as given by the Ordnance Survey for the straight line from Stonehenge to Sidbury Hill.

(3.) *Observation of Sunrise.*—On the morning of June 25, 1901, sunrise was observed from station *a*, and a setting made as nearly as possible on the middle of the visible segment as soon as could be done after the Sun appeared.

The telescope was then set on the highest point of the Friar's Heel, and the latter was found to be 8′ 40″ south of the Sun.

Sun's declination at time of observation			23°	25′	5″
Elevation of horizon at point of sunrise			0	35	48
Assuming 2′ vertical of Sun to have been visible at observation, we have apparent altitude of Sun's upper limb .			0	37	48
Refraction	−27′ 27″		−0	27	18
Parallax	+0 9				
True altitude of upper limb			0	10	30
Sun's semi-diameter			0	15	46
True altitude of Sun's centre			−0	5	16
From this it results that the azimuth of the Sun at the time of observation		=	N.50°	30′	54″ E.
And since azimuth of Friar's Heel		=	50	39	5
2′ of sunrise should be N. of Friar's Heel			0	8	11
Observed difference of azimuth		=	0	8	40
Observed—calculated		=	0	0	29

The observation thus agrees with calculation, if we suppose about 2′ of the Sun's limb to have been above the horizon when it was made, and therefore substantially confirms the azimuth above given of the Friar's Heel and generally the data adopted.

INCORP. 1837 1887

9, Conduit Street, London, W., 25*th Jan.* 1902.

CHRONICLE.

THE PRIZES AND STUDENTSHIPS, 1902.

The Council's Deed of Award.

To the General Meeting, 20th January 1902.

Gentlemen,—Pursuant to the terms of By-law 66, that the Council shall, by a Deed or Writing under the Common Seal, award the Prizes and Studentships of the year, and announce such awards at the next General Meeting after the adjudication, the Council have the honour to state that they have examined the several works submitted for the two Silver Medals of the Royal Institute, the Soane Medallion, the Owen Jones and Pugin Studentships, the Godwin Bursary, the Tite Prize, and the Grissell Gold Medal.

The Royal Institute Silver Medals.

(i.) *The Essay Medal and Twenty-five Guineas.*

Four Essays on the Employment of the Order in Renaissance and Modern Architecture were received for the Silver Medal under the following mottoes:—

1. "Almawimi."
2. "Serlio."
3. Simplex.
4. Tempus Fugit.

The Council regret that they are unable to award the Medal, but they have voted the sum of Ten Guineas to the author of the Essay bearing the motto "Serlio" [*John Jeffrey Waddell, Drumoyne, Uddingston, N.B.*].

(ii.) *The Measured Drawings Medal and* £10. 10*s.*

Twelve sets of Drawings were sent in, of the several buildings indicated, and under motto, as follows:—

1. Ace: (Eltham Palace, Eltham, Kent).
2. Aidan: (Lindisfarne Priory).
3. Cavendo Tutus: (Bolsover Castle).
4. Inca: (Houghton Hall, Norfolk).
5. La Oriole: (Oriel College, Oxford).
6. Peakite: (Bolsover Castle: Riding School).
7. Scheherazade: (King Henry's Gate, St. Bartholomew's Hospital).
8. Semper Fidelis: (Guildhall, Exeter).
9. Strand: (St. Mary-le-Strand Church).
10. "Wren": (Emmanuel College Chapel, Cambridge).
11. H in circle: (Aston Hall, Warwickshire).
12. Device of Two Lozenges (St. George's Church Bloomsbury).

The Council have awarded the Silver Medal and Ten Guineas to the delineator of Bolsover Castle, submitted under the motto of "Cavendo Tutus" [*Frederick William Charles Gregory,* 13 *Gregory Avenue, Lenton Boulevard, Nottingham*], and prizes of Five Guineas each to the delineators of Lindisfarne Priory, Houghton Hall, and Aston Hall, Warwickshire, submitted under the respective mottoes of "Aidan" [*Reginald Wynn Owen* [*A.*], 24 *Oxford Road, Waterloo, Liverpool*], "Inca" [*Stanley Towse, Hillside, Ravensbourne Park, Catford*], and "H in circle" [*Edwin Francis Reynolds,* 61 *Ladbroke Road, Notting Hill Gate, W.*].

The Travelling Studentships.

(i.) *The Soane Medallion and* £100.

Sixteen Designs for a Swimming Bath for Men were submitted, under the following mottoes:—

1. Amphibious.
2. Balneæ.
3. Faust.
4. Hero.
5. Io.
6. Iona.
7. Naiad.
8. Natator.
9. Nero.
10. Phœnix.
11. Roma.
12. Silhouette.
13. Tepidarium.
14. Ursa Major.
15. Wyvenhoe.
16. Zeno.

The Council have awarded the Medallion and (subject to conditions) the sum of One Hundred Pounds to the author of the design bearing the motto of "Iona" [*James B. Fulton, East Chapelton, Bearsden, Glasgow*], Medals of Merit to the authors of the designs bearing the mottoes respectively of "Balneæ" [*Lionel Gordon Detmar* [*A.*], *Hazeldean, Sutton, Surrey*] and "Tepidarium" [*Thomas Anderson Moodie* [*A.*], 10 *Artesian Road, W.*], and a Certificate of Honourable Mention to the author of the design bearing the motto "Io" [*E. Vincent Harris* [*A.*], 44 *Mornington Road, Regent's Park, N.W.*].

(ii.) *The Owen Jones Studentship and* £100

Seven applications were received for the Owen Jones Studentship from the following gentlemen:—

1. Edward H. Bennett.
2. Cecil Scott Burgess.
3. V. J. Cummings.
4. L. Rome Guthrie.
5. James McLachlan.
6. Percy E. Nobbs.
7. Ramsay Traquair.

The Council have awarded the Certificate and (subject to the conditions, among others, that the said candidate devote a tour of not less than six months' duration to the improvement and cultivation of his knowledge of the application of colour as a means of architectural expression, and furnish the Council with an original design in coloured decoration of a prescribed subject) the sum of One Hundred Pounds to *Mr. Edward H. Bennett,* 18 *Rue Bonaparte, Paris*; a Prize of £10. 10*s.* to *Mr. Percy Erskine Nobbs, M.A.Edin.* [*A.*], 8

Trafalgar Square, Chelsea, S.W.; and a Prize of £5. 5s. to *Mr. James McLachlan*, 125 *Warrender Park Road, Edinburgh.*

(iii.) *The Pugin Studentship and £40.*

Twelve applications were received for the Pugin Studentship from the following gentlemen :—

1. George A. Bachmann.
2. Heaton Comyn.
3. P. Ion Elton.
4. J. W. Farmer.
5. J. Harold Gibbons.
6. W. S. A. Gordon.
7. Stanley H. Hamp.
8. A. Muir.
9. J. B. Pye.
10. J. Myrtle Smith.
11. C. Wontner Smith.
12. P. J. Westwood.

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate devote a tour of not less than eight weeks' duration in some part of the United Kingdom to the study of Mediæval Architecture) a sum of Forty Pounds to *Mr. Cyril Wontner Smith* [*A.*], *Grasmere, Hendon Lane, Finchley, N.*; Prizes of Five Guineas each to *Mr. Andrew Muir*, 39 *Cromwell Avenue, Hammersmith, W.*, and *Mr. J. Myrtle Smith*, 180 *New Bond Street, W.*; and a Certificate of Honourable Mention to *Mr. John Harold Gibbons, Guardian Assurance Buildings*, 25 *Cross Street, Manchester.*

(iv.) *The Godwin Medal and £40.*

Two applications were received for the Godwin Bursary from the following gentlemen :—

1. Henry L. Merille de Colleville.
2. Charles A. Daubney.

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate devote a tour of not less than five weeks' duration in some part of Europe other than Great Britain and Ireland, or America, for the purpose of studying and reporting on works of modern architecture) the sum of £40 to *Mr. Charles Archibald Daubney* [*A.*], 1 *Wellington Road, Peckham, S.E.*

(v.) *The Tite Certificate and £30.*

Twenty-four Designs for a Royal Memorial Chapel in the Italian Style were submitted under the following mottoes :—

1. "Archivolt."
2. Avanti Savoia.
3. Bramante da Urbino.
4. "Duomo."
5. Gibbs.
6. Issius.
7. "In Memoriam."
8. "John-o'-Gaunt."
9. Lion Heart.
10. Marble.
11. Moab.
12. Nero.
13. Nimrod.
14. "Pax."
15. Petronius.
16. Rex on grey strainers.
17. Rex on brown strainers.
18. R.I.P. on 3 strainers.
19. R.I.P. on 5 strainers.
20. Tendimus.
21. Device of a Shamrock.
22. Device of a Circle.
23. Device of a Blue Cross.
24. Device of 3 Red Seals.

The Council have awarded the Certificate, and (subject to the condition, among others, that the said competitor, after an absence of not less than four weeks, shall submit satisfactory evidence of his studies in Italy) a sum of Thirty Pounds to the author of the design bearing the motto "Lion Heart" [*Charles Gascoyne, Ashleigh, Sherwood, Nottingham*], a Medal of Merit to the author of the design bearing the motto "In Memoriam" [*Andrew Hutton*, 16 *Annfield Street, Dundee*], and a Certificate of Honourable Mention to the authors of the designs bearing the mottoes "Marble" [*W. Curtis Green*, 63 *Bedford Gardens, Campden Hill, W.*], "Rex on grey strainers" [*Arthur R. Gough* [*A.*], 24 *Bridge Street, Bristol*], and "Shamrock" [*Cyril Edward Power, Rugby Chambers, Great James Street, Bedford Row, W.C.*] respectively.

PRIZE FOR DESIGN AND CONSTRUCTION.

The Grissell Medal and £10. 10s.

Six designs for a Roof, in Iron, Concrete, and Glass, of a Picture Gallery were submitted under the following mottoes :—

1. Cædmon.
2. Groined Barrel.
3. Hertford.
4. Rover.
5. Toby.
6. Red Trefoil.

The Council have awarded the Medal and Ten Guineas to the author of the design bearing the motto "Toby" [*Lionel Upperton Grace*, 33 *Munster Square, Regent's Park, N.W.*].

THE ASHPITEL PRIZE 1901.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitel Prize (which is a Prize of books value £10, awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year) to Mr. Charles Thomas Adshead, of Liverpool. Mr. Adshead was registered *Probationer* in 1894, *Student* in 1897, and passed the Final Examination in November 1901.

The Council have further awarded a Prize of books to the value of £10 to Mr. Frederick Dare Clapham in recognition of the merit displayed by him in his work at the Special Examination, June 1901.

THE TRAVELLING STUDENTS' WORK.

Owen Jones Studentship 1900.—The Council have approved the drawings and design executed by Mr. George Andrew Paterson, who was awarded the Owen Jones Studentship for 1900, and who travelled in France, Italy, and Spain.

Godwin Bursary 1900.—The Council have approved the Report of Mr. Sidney Kyffin Greenslade [*A.*], who was awarded the Godwin Bursary in 1900, and who visited the United States of America to study the Planning and Construction of Public Libraries.

The Council have awarded Mr. Greenslade an extra grant of £20 out of the Godwin Fund to enable him to continue his studies.

Pugin Studentship 1901.—The Council have approved the work of Mr. Henry William Cotman, who was elected Pugin Student for 1901, and who travelled in Wiltshire, Somersetshire, Dorsetshire, Gloucestershire, Warwickshire, and Oxfordshire.

In witness thereof the Common Seal has been hereunto affixed this Twentieth day of January 1902, at a Meeting of the Council.

(*Signed*) JOHN SLATER, *Vice-President*; ASTON WEBB, E. W. MOUNTFORD, *Members of Council*; ALEXANDER GRAHAM, *Hon. Secretary*; W. J. LOCKE, *Secretary*.

REVIEWS.

RAVENNA'S CLAIM.

Le origini della Architettura Lombarda, e delle sue principali derivazioni nei paesi d'oltr'Alpe. Vol. I. G. T. Rivoira. 4o. *Roma* 1901. [*Ermanno Loescher & Co.*]

The Dark Ages, it would seem, are some day soon to be as bright as Piccadilly. Writer after writer makes attacks upon their gloom, and poor Truth in her well's depth has so often had her discreet privacy violated by the obtrusive flash of search-lights that one almost feels a touch of compassion for her state—a touch, if one may say it, of regret at the present disregard of her ancient modesty. But this is foolishness—an acknowledgment of frailty, a twinge of the heartache that goes with all progress. Of course, nothing but praise is really due to the fact-finders, and among them to Signor Rivoira. His new book on the origins of Lombard architecture is a valuable piece of evidence-hunting, and he has brought together (whether his theories prove convincing or no) an excellent range of well-chosen, and in some cases rather unknown, examples. His book, to quote his own words, is the working out of an idea, a theory which flashed upon him in one of his architectural travels. Signor Rivoira had noticed, as others notice, that the writers on architecture have been slow in coming to any lucid conclusions, or indeed in producing any clear historical evidences, on the period of Italian art which extends from the middle of the sixth century to the opening of the eleventh—in other words, from the descent of the Longobards to the developed appearance of the style which is known as the Lombard or Comacine. He is no doubt right in attributing the architectural mysteries of this obscure age in large measure to the frailties of the writers themselves—their differences, their errors, and above all their prejudices. Some of them, having gone too much to books and too little to buildings, have thus been unduly ready to accept and to reaffirm statements and theories which had no basis in fact; others, whose ideas have been rather too wide than too narrow, have, in Signor Rivoira's opinion, made the mistake of searching in far foreign lands for the "origins, influences, examples, and artificers" that were really to be sought for on Italian soil. Even Cattaneo's important work falls in some degree under the condemnation, and the author feels that its value is compromised, not only by haste and inefficient preparation, but also by a preconceived idea of Byzantine origins and by an undue fidelity to Cordero's publication on Italian architecture under the Longobard rule. His own aim has been to avoid the errors of his predecessors by the plain but difficult expedients of keeping an open mind and taking infinite pains. "New evidences and no prejudices," these are his watchwords; and his line of argument is the following.

The architecture which preceded the Lombard style had, in a sense, its origin in Lombardy, and was the work of those combinations of operatives known as the Comacine or Lombard Guilds. Its rise is to be ascribed chronologically to the time of the Longobard King Autaris and his successors, among them the celebrated Theodolinda; in fact, to the close of the sixth and the opening of the seventh centuries—a period which coincides with the initial stages of decay in that great architectural activity at Ravenna which had sprung into being at the beginning of the fifth century, the date of the transference to Ravenna of the seat of Western Empire.

It was, says Signor Rivoira, from the products of the art of Ravenna that the guilds of Lombardy derived their inspiration. They borrowed from it in the first instance certain general principles of architectural decoration, and eventually appropriated "certain organic elements alike of primary and secondary importance." Milan and Ravenna seem to have hung in opposite scales; the rise of one was the proportionate collapse of the other.

From the time of Maximian (286), Milan had enjoyed a career of increasing prosperity in art (having indeed been a city of riches and strength ever since the days of Augustus); but with Honorius and the establishment of the Court at Ravenna there came dark days for the dispossessed town, which lost, not its prestige only, but as it would seem its very artificers, for no doubt they, like other necessaries of Court life, were transported from capital to capital. In fact, the artistic fortunes of Milan went from bad to worse all through the fifth and sixth centuries, till, at the close of the latter, we find evidences of a happy change. It was then that the Comacine masters, profiting by the special privileges which they held under the Longobard rule, and by the many opportunities of building enterprise which lay before them, began to raise their art from the miserable condition into which it had been submerged. The result of this revival of energy, and consequent revival of skill, was, according to Signor Rivoira, that the "Lombard" artists (if we may give them this name) found themselves invited to the exercise of their craft even in such far-away spots as Dalmatia and the Transalpine countries; and further, that to meet their new needs they drew new inspiration from the buildings of Rome and of Ravenna, deriving from them the ingredients, so to speak, and elements which, after a course of development, sufficed to transform the old architecture of Classic Italy into a new style suited to new needs. All this was not done in a day. The seventh century saw the first developments of the movement dimly initiated at the close of the sixth. The eighth, the century of Charlemagne, witnessed its increase; the ninth, a still further spread, under the religious enthusiasm of two Milanese archbishops; and with the tenth century came still warmer religious fervour, fanned by the prospect and fear of the world's ending with the millennium, the climax being that at the close of the first quarter of the eleventh century the "Lombard organism was already formed, and in the middle of the century appeared the first type of the Lombardic vaulted Basilica."

In his study of the transfer of ideas from the Adriatic shore to the Lombard plain, Signor Rivoira takes, it seems to me, a somewhat unusual view of the intellectual side of mediæval building craft. A new architectural style, as he truly observes, is not a new creation of human genius, but an evolution from some more ancient manner. Art never dies; and if sometimes we see her lying for dead, none the less is her body ready to revive at the breath of some new life-giving spirit. Such occasions of new birth, which come as it were to signalise the arrival of a new civilisation, are not the work of a moment, nor are they immediate in their effect. Their progress, on the contrary, is slow and periodic, and it is found that times of peace and prosperity, which feed the gathering strength of the new art, alternate with intervals of apparent quiescence, which in their turn are in reality times not of stagnation but of preparatory repose. In such a statement as this we can agree with him entirely, but it is when he comes to put forward his view as to the *conscious* preparation and *conscious* collection of material that we realise how new is his line of argument.

"Thus it was"—translated somewhat freely—"that the architectural movement of the eleventh century, which took place first in Italy and subsequently beyond the Alps, was preceded by a long period in which the monuments of Rome and Ravenna were subjected to study; thus it was that there took place a series of laborious and repeated enterprises destined—by way of compromise between the past arts of Rome, Ravenna, and the pre-Lombard art of the Comacines—to transmute the architecture of classic times into what we know as the Lombard style."

It will be for the readers of Signor Rivoira's work to decide for themselves how far he is justified in attributing to the builders of the Middle Ages a system of study for purposes of architectural assimilation which, though it would have a dim reflection in the methods of the Renaissance, could only find its real parallel in the eclecticism of our own modern day. I confess that for my own part I find it difficult to realise the possibility or probability of such a spirit in such an age. But should it prove that Signor Rivoira is mistaken on this head, the mistake would be no bar to the value of his book. There are other ways of gleaning from the architecture of a bygone age and of a different place than the way of direct study and intentional imitation. The author's facts as to the lines of derivation may be perfectly sound though his theory of the method of transmission may be erroneous; and his main proposition, which is the supremacy of the Ravennate school in the genesis of Lombard art, is not merely attractive but in a large measure convincing.

It is of course impossible here to follow the writer through the particular steps of his argument or to mention a tithe of the buildings from which he draws his evidence: it must suffice to indicate as examples of his methods the proof on p. 11 that the *pulvino*, which is one of the characteristics common to Byzantium and Ravenna, is really the property of Ravenna; the similar vindications (p. 71) of the builders of San Vitale, who are shown, without undue denial of Byzantine influence, to be Italians, not Orientals; and the interesting arguments which trace to Ravennate origin the blind arcades which are recognised as a distinguishing feature of Lombard architecture.

It is not very long ago that we were bidden to look on sunny little Como* as the birthplace of Gothic art: we are now, it seems, to honour Ravenna in like manner, for I make no doubt that Signor Rivoira's second volume, when it appears, will, as it has traced "Lombard" art to Ravenna, derive the work of northern Europe from the labours of Lombardy. In spite of this apparent divergence of theory as to locality, there is in truth much common ground between the supporters of the Comacine theory and this new idea of Ravennate origin. Both schools are in favour of a unity of source in eleventh-century architecture, both recognise the guild of Lombardy as a powerful operative agency, and both press Italian claims as against Byzantine. The issue of Signor Rivoira's argument is as yet undetermined, but if, as seems possible, he is intending to mark the birthplace not merely of Lombard but of Gothic art in general, there will here be found another point of unanimity.

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* I allude to Merzario's book, *I Maestri Comacini*, practically unknown to English readers except through the medium of Leader Scott's *Cathedral Builders*.

To the sentimental there will be no blow in this displacement of the affections. Ravenna—the remote and rather inhospitable resting-place of Dante, the home of Honorius and Theodoric—is at least as appropriate to meditation on the growth of a great art as is the tourist-haunted birthplace of Volta. Not that Como need be discouraged either by her present rather vulgar frequentation or by this attempt on the part of the friends of Ravenna to share her claims on the parentage of Gothic art: she will always remain in the minds of Vitruvians the *amœna e delectavole citate* from which was issued by Gotardo da Ponte the proud volume of Cesare Ciserano.

PAUL WATERHOUSE.

PORTLAND CEMENT.

The Cement Users' and Buyers' Guide. By Calcare. [*E. & F. N. Spon, Ltd.*, 125 *Strand.*]

In this very little book is given an outline of the history of Portland cement, an account of its manufacture, with tests for soundness, purity, and strength, together with methods of buying, storing, and mixing it. The feature of the book, and possibly the *raison d'être*, is a list of certain cement makers conveniently near the important towns in the British Isles, with the exception of Scotland, where apparently little or no cement is made.

On the subject of quality the author describes those tests for soundness which are more notable for simplicity than for their expeditious results. The Arnold briquette mould system of testing, in which, however, a small plant is used, gives results in twenty-four hours. The tests for strength, fineness, and in fact, for all the characteristics of cement, are enumerated. "Overlimeing" is perhaps the most disastrous defect, although one tolerably easy to test for. The author suggests a form of specification to be used in obtaining quotations from makers, also a form of guarantee that the cement to be supplied contains no Kentish rag, slag, or other adulterant. No doubt every builder should purchase his cement with these safeguards. Architects are usually satisfied with such guarantee as the maker's name on sacks and casks affords, and this protection is of real value in view of recently published trade returns disclosing an increasing importation of foreign cement, due to cheap freights from Antwerp. The information in this book of as many pages as there are pounds in a bushel of good cement is printed in readable type on paper suggestively edged with gold and appropriately bound in a cement-coloured cover; the whole, no larger than a dainty lady's Prayer Book, is convenient, as the preface states, for the pocket; an advantage, alas! only to be enjoyed by those who are solely or largely cement users or buyers.

SYDNEY B. BEALE.

LEGAL.

Contract: Provisional Sums mentioned in Specification: Liability of Building-Owner.

HOBBS *v.* TURNER.

This was an appeal by the defendant from the judgment of Mr. Justice Kennedy, reported in 17 *The Times* Law Reports, 83. The appeal was heard in the Court of Appeal on the 17th January, before the Master of the Rolls, Lord Justice Romer, and Lord Justice Mathew. The following report is from *The Times* of the 18th January:—

The plaintiff, who was a metal-worker, sued the defendant, a building-owner, for £27 10*s*., for metal-work supplied for a house which the defendant was having built for him by a builder under the supervision of Mr. J. L. Williams as architect. The contract under which the house was being built was made in September 1898, and was in the form settled and issued by the Royal Institute of British Architects. By the contract the builder, in consideration of a sum of £4,700, agreed, upon and subject to the conditions in the schedule to the contract, to execute and complete the works described in the specification. Payment for the work was to be made by instalments as the work progressed, according to the certificate of the architect. Clause 28 of the contract, so far as material, was as follows:—"The provisional sums mentioned in the specification for materials to be supplied or for work to be performed by special artists or tradesmen, or for other works or fittings to the building, shall be paid and expended at such times and in such amounts and to and in favour of such persons as the architect shall direct, and sums so expended shall be payable by the contractor without discount or deduction or . . . by the employer to the said artists or tradesmen. The value of works which are executed by the contractor in respect of provisional sums, or in additional works, shall be ascertained as provided by clause 13. At the settlement of the accounts the amount paid by the contractor to the said artists or tradesmen, and the said value of such works executed by the contractor, shall be set against all such provisional sums or any sum provided for additional works, and the balance . . . shall be added to or deducted from the contract sum. . . ." The specification contained this clause:—"Provide and fix iron balcony railings to design (allow £20 for this irrespective of carriage, fixing, and profit)." It was not suggested that there was anything in the specification to alter the legal rights of the parties. The architect selected the plaintiff as the person to supply the iron-work for the balconies, and the builder asked the plaintiff to send designs to the architect, who rejected them, and sent the plaintiff his own designs; and the builder having given measurements and quantities, the iron-work was sent to him (the builder), and the goods were invoiced and debited to him. Later on, in November 1899, the builder wrote to the plaintiff asking him to send him his account, and he did so; but on December 9 the builder wrote saying that the architect would certify the amount direct to the building-owner (the defendant), and on 14 December 1899 the architect sent to the plaintiff a certificate addressed to the defendant certifying that the plaintiff was entitled to be paid £27 10*s*. for the iron-work. This certificate the plaintiff sent to the defendant, who kept it, making no reply. After this the plaintiff sent two or three times to the defendant for the money, of which the defendant took no notice. In October 1900, when the plaintiff's solicitor wrote for payment, the defendant repudiated liability. The defendant alleged that he had a claim against the builder for bad work. Mr. Justice Kennedy gave judgment in favour of the plaintiff. The defendant appealed.

Mr. Clavell Salter appeared for the defendant; Mr. Arthur Powell, for the plaintiff, was not called upon.

The Court dismissed the appeal.

The Master of the Rolls said that, in his opinion, the appeal should be dismissed. The contract was one which was not an unusual one at the present time—namely, the builder undertook to do certain portions of the work, and as to the other portions of the work provisional sums were specified. The specification contained this clause:—"Provide and fix iron balcony railings to design (allow £20 for this irrespective of carriage, fixing, and profit)." That threw them back upon the original central undertaking of the builder contained in the contract and the conditions. In consideration of the sum of £4,700 the builder agreed to execute and complete, subject to the conditions in the schedule to the contract, the works described in the specification. In the conditions and specification they found how that lump sum was to be distributed. They found that the builder was not necessarily to execute the whole of the work, but the building-owner might get other persons to do certain parts of the work, and as against the builder certain fixed sums only were to be paid out of the lump sum to those persons for that particular class of work. It was good sense that a sum should be fixed for each class of work which was not to be executed by the builder, but by some tradesman or artist designated by the architect. The building-owner—the defendant—had a discretion as to the person by whom this class of work was to be done, and he might agree to pay him any sum he pleased, but he could only allow as against the builder the fixed sum for each class of work. That being so, clause 28 of the conditions seemed to him to contemplate payment for this class of work being made either by the builder or by the building-owner, and the last part was based on the hypothesis that part of the work might be done by the builder and part not done by him, and where any such work was not done by the builder the building-owner would be entitled to hold back the amount specified for that work. This clause was obviously framed upon the footing that the building-owner was liable for this particular class of work. In his opinion, when one looked at the whole of the contract taken together, and not relying upon any one particular clause, the proper inference as regarded this particular class of work was that it was intended that the building-owner, and not the builder, should be the principal. If the builder entered into a contract for any of this class of work he might make himself liable to the tradesman or artist; but, as he was acting under the general scope of the contract, he would be acting as the agent of the building-owner, and would create privity of contract between the building-owner and the tradesman or artist. That could only be got rid of by the tradesman or artist contracting with the builder in such a way as to debar himself from resorting to the building-owner. Nothing of that kind occurred here. What happened was that the plaintiff was put into relation with the defendant through the architect, and, though this was not clear, he understood that the order was given to the plaintiff by the architect. It was true that the invoice was sent to the builder, but the architect gave a certificate against the defendant, and not against the builder, and sent it to the defendant. His Lordship did not intend to say anything about the point as to estoppel, nor was it necessary to decide whether, under clause 28 of the conditions, the architect had authority to determine who was to pay as well as to whom payment should be made. It seemed to him, looking at the contract as a whole, that the initial liability of the defendant—the building-owner—in respect of this class of work was established, and that all the parties dealt upon that footing. The judgment was, therefore, right.

Lord Justice Romer agreed.

Lord Justice Mathew was of the same opinion. This was a question of fact which had been properly decided by the learned Judge.

MINUTES. V.

At the Fifth General Meeting (Ordinary) of the Session 1901–1902, held Monday, 20th January 1902, at 8 p.m., Mr. John Slater, B.A. Lond., *Vice-President*, in the Chair, with 22 Fellows (including 10 members of the Council), 30 Associates (including 3 members of the Council), 3 Hon. Associates, and several visitors, the Minutes of the Meeting held 6th January [p. 120] were taken as read and signed as correct.

The decease was announced of John Lee Hodgson, of Lille, Nord, France, *Associate*, elected 1892.

The Hon. Secretary having announced the receipt of five guineas from Mr. Sydney Smirke [*F.*], being his annual donation to the Library Fund, a vote of thanks was passed to Mr. Smirke by acclamation.

The Secretary having read the Deed of Award of the Prizes and Studentships 1902, made by the Council under the Common Seal [p. 143], the sealed envelopes bearing the mottoes under which the successful designs and drawings were submitted were opened, and the names of the authors declared [see DEED OF AWARD, p. 143].

Mr. Detmar Blow having read a Paper on THE ARCHITECTURAL DISCOVERIES OF 1901 AT STONEHENGE, and given a description of the lantern slides shown in illustration thereof, a discussion ensued, in which Sir Norman Lockyer, K.C.B., F.R.S., Mr. Penrose, F.R.S. [*F.*], Mr. Emanuel Green, F.S.A., Mr. W. H. St. John Hope, and the author took part.

On the motion of the Chairman, a vote of thanks having been passed to Mr. Blow by acclamation, the proceedings closed, and the meeting separated at 9.50 p.m.

ADDRESS TO STUDENTS. Delivered by Mr. John Slater, B.A.Lond., *Vice-President*, at the General Meeting, Monday, 3rd February 1902.

THE architectural student of to-day, if he takes an intelligent interest in the history of his art, must be much impressed and somewhat puzzled to notice how very fluctuating and short-lived have been the various fashions of architectural taste during the last hundred years or so. If he looks to ancient times, when the world was young, and what Lord Leighton calls "the spirit of spontaneous, unquestioning joy in production" was paramount, this was not the case. The styles of architecture which the early building peoples evolved for themselves to suit the vicissitudes of climate, the varying necessities of their public and private life, the nature of the building materials found in the country, and various other local conditions—whether you turn to Egypt with its colossal and gloomy avenues of sphinxes and columns, or to Assyria with its glazed tile decorations and mural tablets depicting in realistic fashion all the daily occupations of its kings, or to Persia with its lofty tapering columns and pillared halls such as we see at Persepolis—these styles, I say, persisted with slight variations for centuries, and only died with the decay of the nations themselves. When we come to Greece, we know that at the beginning of the sixth century B.C. the splendid temples of Artemis at Ephesus, and of Herè at Samos, were commenced, and we can only imagine what a length of time must have elapsed from the erection of the earlier and simpler Doric temples before these two magnificent buildings could have been possible. The Doric and the Ionic styles flourished contemporaneously, and the latter merged into the Corinthian, the earliest example of which is the Choragic monument of Lysicrates, which was built in B.C. 335. When the Greeks began to plant colonies along the Italian littoral, numerous temples sprang up there, and the Romans became familiar with Greek architecture, which they naturally adopted, with modifications and variations, and this variant of the classic style prevailed during the continuance of the Roman Republic and under the Emperors, not only in Rome itself, but in the numerous colonies which she founded, and the ruins of the Roman edifices served as the pattern for the debased classic buildings which were erected during the earlier centuries of the Christian era. Passing through the Romanesque, we find Pointed or Gothic architecture fully developed in England and on the Continent—except in Italy, where the classic traditions lingered longest—by the end of the twelfth or the beginning of the thirteenth century, and from then down to the middle of the sixteenth century this style with its developments and modifications held the field until the revival of letters led to that renascence of classic taste which stamped its mark on the architecture, the literature, and the painting of the next two hundred years. Since then all has been changed. In 1830 Quatremère de Quincy published his work on the lives of the most celebrated architects, and he uses these words in his introduction: "As we only recognise as the true Architectural Art that which—alone among all known methods of building—owes its origin, its progress, its principles, its laws, its theory, and its practice to the Greeks, and which, handed on by the Romans, has become that of the greater part of the civilised world, we must forewarn our readers that no mention will be found in our treatise of any work or of any architect of the kind called Gothic."

In 1827 was published a work illustrating the recent buildings erected in Regent Street and on the outskirts of Regent's Park, and speaking in terms of no stinted praise of the excellence of the designs. Yet in 1836, when the Houses of Parliament were in course of erection, we find the Gothic style to the fore. In 1867 the competitive designs for the new Law Courts were sent in, to the number of eleven: every one of these—except one alternative design submitted by Mr. Garland—was in the Gothic style, and Mr. (afterwards Sir) Gilbert Scott in his report claimed for the Gothic style that it afforded the greatest facilities for the developments suggested by modern requirements, modern materials, and modern modes of construction. A generation later what do we find? You are all of you acquainted with the storm which was raised a few weeks ago anent the Liverpool Cathedral competition, and I need not quote the opinion of a distinguished modern architect as to the competency of the Gothic style to meet the requirements of to-day! Now I think it very probable that all this may lead an architectural student to exclaim: "A plague on both your houses! Why should I bother my head with learning anything about Classic or Gothic, Romanesque or Renaissance? All art is ephemeral; utilitarianism is the only guide. These styles are now all dead, and will give me no help towards designing a town hall, an infirmary, or a modern residence." Now I do not think it can be too strongly impressed on those who may be disposed to hold such views that they will be utterly wrong if they take this line. What is it that stirs the emotions even of the unlettered man when he gazes down a vista of columns, gigantic and awe-inspiring, in an old Egyptian temple, or looks upon the perfect grace of the Parthenon, or the stupendous relics of mighty Rome, until, as Byron says,

> the place
> Becomes religion, and the heart runs o'er
> With silent worship of the great of old;

or when in some old mediæval cathedral, where

> The blessed saints are smiling dumb
> From the rich painted windows of the choir
> On aisle and transept,

he looks up to the springing arches and intricate ribbed vaulting—what, I say, stirs the emotions but the feeling that, different as may be the forms which present themselves, there is such fitness in the purposes of each and in the connections of all the parts with each other, such perfection in the combination of form and colour, that the net result in every case is beauty? And if this emotion is excited in the untutored breast, even though it may fail to find expression, is it not more so in that of the artist? and ought he not to study reverently and carefully the older styles, not with the idea of slavishly imitating them, but with the desire to enter into their spirit, to see what were the aims with which the old masters of the building craft worked, and upon what the beauty of the result depends? The buildings which have attracted and which will attract the most universal admiration are not those at the sight of which we exclaim "How enormous!" or "How wonderfully clever!" but those which are beautiful; and whenever you meet with a building, large or small, new or old, which attracts you as being beautiful, study it carefully, not in the mechanical spirit of the anatomist who is dissecting a dead body, but with wise and loving sympathy and reverent tenderness. I am old-fashioned enough to think that an architect ought to try to make his building beautiful, and that a protest should be made against what appears to me to be the cult of ugliness which has been growing of late years. There is too great a tendency nowadays to mere eccentricity and originality among the younger men. There have been several buildings erected lately the cleverness—I had almost said the infernal cleverness—of which cannot be denied for one moment; but are they beautiful? There is far too much straining after effect, too great eagerness to achieve something not attempted, or at any rate not achieved, before; and, as has been well said, "when the achievement becomes obvious, is it not by way of becoming uninteresting?" I am not arguing in favour of a dead level of monotony, which is uninteresting even if the level be a high one; I have no love for the stereotyped style of art which the Continental methods of education and study too often result in. If a man be a true artist his individual emotions, the bent of his mind, all the idiosyncrasies of his character are bound to come out in his work; but do not let your main idea and aim be to display your idiosyncrasies. In this connection I cannot do better than quote some words recently used by Sir Edward Poynter in addressing the students of the Academy. He said: "The desire to be original is a constant besetment of the young artist, but unless founded on a solid base of knowledge and study it is apt to lead to mere eccentricity, and to show a desire to astonish rather than to command that legitimate admiration which sensible people would give to all well-considered and thoughtful work; and there is perhaps nothing more distressing to the intelligent observer of a work of art than an evidence of the desire to be original at all costs, where there is neither genius nor knowledge to support it." These words cannot be too closely pondered on and taken to heart by every artist, and especially by architects to-day, who are too apt to think that the rays which fall from the new electric lamp of eccentricity have extinguished all the beams of the old Seven Lamps. A real genius may be original because he has the knowledge and the power to work out his original ideas, but what can be more contemptible than to see the weak, jejune, and spiritless attempts to copy what may be admired as an original work of genius, while the copy only shows the lack of genius in its exponent? In literature we admire Carlyle because of the intense earnestness which is everywhere to be found behind the rough and somewhat uncouth language which he employs; but of those who have tried to imitate Carlyle what shall we say? "Non ragionam di lor, ma guarda e passa." Your buildings are the vernacular in which you have to express the architectural ideas which are in you; and, depend upon it, the simpler and more direct that language is, the more eloquently will it appeal to the world. Be assured, therefore, that the time you may spend in studying old work will never be wasted, that such study will but brace your pinions and fit you better to soar into the heights which science is opening out for you. And further, the study of old work will teach you another most important lesson—never to lose sight of the nature of the material in which you are working. In the best old work the material is never tortured: one form of ornamentation and enrichment is suitable for stone, another for brick, and another for wood; and this was always lost sight of when art became debased, with the result that a mere *tour de force* is attained, from which, however much we may admire the skill which produced it, we turn with relief to the simpler, truer, and more legitimate methods of treatment.

Before I leave the subject of what I may call your intellectual equipment for the career which you have chosen, let me urge you to cultivate an easy, terse, and direct literary style. When you get into practice you will have to write reports and to carry on daily correspondence on all sorts of subjects, and you should endeavour always to make your own meaning as clear as possible to those you are addressing. It often occurs to me how lamentably deficient in literary style are the majority of letters which one gets from architects. And here I cannot but express my regret, which is shared, I believe, by all members of the Council, that we have been unable to award the Essay Prize this year. Here is an opportunity, which I should like to see more widely embraced, of carefully studying some subject given to you, digesting it, and then producing in your own words a dissertation on the subject, which should not be a mere *réchauffé* of what you have read, but an attempt to explain and to reason upon the theme which has been set you. I hope next year we shall get a much larger number of competitors for this prize. Also I would urge the younger members of this Institute not to neglect any opportunities you may have to practise public speaking. If any subject is treated in this room on which you have knowledge, I am confident your attempts to impart it will always be received sympathetically by the occupier of this chair, whoever he may be, and you will find it an enormous advantage to be able to express your ideas in public. I very much wish more of the younger men would take part in our discussions here. When you once get started in independent practice there will be hosts of matters coming before you on which you will only have your own judgment to guide you. You are sure to make some mistakes, but do not be unduly discouraged by them; you will learn more from mistakes than in any other way.

I must just say one word on what has been a vexed question ever since I took any interest in this Institute—I mean competitions. Whatever may be one's personal views on competitions, I do not for one moment suppose we shall ever get rid of them. From the point of view of the promoters, I do not think the best method of getting the most suitable design is by competition, because, however carefully you may draw your conditions, you can never embody in them all the small points which ought to be and would be considered by the designer if he were in constant touch with those whose requirements he is trying to meet; but from the competitor's point of view—painful as must be the aggregate waste of time and energy—it seems to me that there was a great deal of force in the remarks made by Mr. Wills a few weeks ago in this room. He said that a man starting in practice cannot possibly have his time fully occupied, and that he had better waste his time going in for competitions than in other ways, and there is no doubt you may learn a great deal by endeavouring to work out actual problems of design; but you ought to work them out conscientiously, and not slur over the difficulties, or you will be apt to get into slovenly ways of work, and there is always the danger of being led to put telling bits of design into the elevations without looking after the construction. And if you do go in for competitions, when the award is made I cannot help thinking the losers would best consult their own dignity by accepting their defeats in silence. Of course, I am assuming a conscientious assessor and promoters who mean loyally to accept his award. No words can be too strong to stigmatise cases in which assessors' awards are upset for no intelligible reason except nepotism; but I hope such cases are growing rarer, and this Institute is, I feel sure, always desirous of doing its best to keep competitions clean, fair, and above-board.

The field of an architect's practice is ever widening, and in fact it is now so extensive as almost to deter men from entering on it. All the new discoveries of science, which at first are simply laboratory experiments, are gradually made to subserve our daily needs and requirements, and as soon as this has taken place our clients expect us to advise them with reference to all new inventions, and you will find it to your great advantage to keep *au courant* with the times by noting, and, if possible, investigating, the utility of new inventions affecting architecture. But the powers of any individual are limited, and I feel sure that the near future will see a good deal of devolution of the manifold duties undertaken by architects. And I see no reason why this should turn out to the detriment of the architect. On the art side he can be associated with the sculptor, the painter, and the mosaic worker, and on the scientific side why not with the engineer? Quite recently this Institute urged the desirability of associating an architect with an engineer in bridge design, and I am confident it would often be desirable to associate a professional civil engineer with an architect in the case of large buildings where difficult problems of support or construction have to be considered, the best arrangement of electric wiring, and so forth. I would be the last to undervalue the great assistance which an architect receives from what I may call the specialist manufacturers with whom we so frequently have to consult, but personally I am disposed to think the better plan would be to put their work under the direct supervision of a professional engineer, who could draw up the specification embodying the conditions under which the work is to be carried out. But this is a question which scarcely comes within the limits of an address to students. The very wideness of the field covered by an architect's practice, with all its manifold responsibilities, has, however, its compensations. As your practice increases you need never be haunted by the dread of monotony. Your work will probably take you afield into various parts of the country, and every fresh building which you have to design will present new difficulties as to site, aspect, accommodation, &c., which it is a never-ending pleasure to try to overcome. Architecture is so many-faceted, and touches so many planes of modern life—ecclesiastical, municipal, commercial, and social—that an architect ought above all other men to be broad-minded and to avoid anything like cliqueism or a haughty bearing towards his fellows. Remember that, however fascinating and lofty may be your designs, the effect of your buildings when finished depends not upon yourself, but upon the builder who carries out your designs, the foreman who looks after the work, and even the individual carpenter who fits a moulding or the labourer who mixes the concrete, and if you cultivate broad sympathies you will find all through your life that you will remain a student and will be learning lessons every day, and this will tend to keep your brain clear and your mind receptive.

In these few remarks I have endeavoured merely to touch upon some of the matters of interest to students as to which a word of advice or caution may be useful, but you must fill in the details yourselves, always remembering that so honourable and inspiring a profession demands that those who practise it should always uphold a high standard of honour among themselves.

In conclusion, let me heartily congratulate those of you who have come here to-night to receive the prizes which you have so thoroughly deserved. Mr. Hare will give you some detailed criticisms on the work which has been submitted, and I will only say that I think the collection of drawings which has been on view the last fortnight is a really remarkable one, and shows an aggregate of labour, study, and skill which cannot be too highly commended. And you who have not been fortunate enough to win prizes are also to be congratulated, for you have shown a steady perseverance in working out your designs which will certainly not turn out to be lost labour, and you will learn a great deal by observing how others have got over the difficulties which perplexed you. Do not be unduly depressed by your failures nor elated by your successes, but let each only stimulate you to further endeavours. I heartily wish you all possible success in your future careers.

REVIEW OF THE DESIGNS AND DRAWINGS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1902.

By H. T. Hare [*F.*]

THE duty of offering some remarks and criticisms on the designs and drawings submitted for the Institute Prizes and Studentships is in many respects a very responsible and onerous one. One cannot, in looking round the exhibition, fail to be struck by the vast amount of care and labour which the students who are competing have expended on their work, and it behoves the critic to weigh well his words that he may not on the one hand omit any beneficial criticism, or on the other discourage or misunderstand an earnest and meritorious worker. It is also to be borne in mind that the designs are the work of students, and must not therefore be judged with too great severity from a practical standpoint.

With these considerations before me, and remembering the many brilliant men who in former years have occupied my present position, I approach my task with some trepidation; being conscious that, though I have been accustomed to form opinions on the works submitted for these prizes, I have not hitherto had occasion to formulate those ideas in such a manner as shall make them intelligible to others.

The subjects included in the prize list of the Institute cover a very wide field, ranging from the literary side, as instanced by the Essay, to the eminently practical, as evidenced by the Grissell Medal. The study of old work is encouraged in the competitions for the Pugin Studentship and the Institute Medal, of colour in that for the Owen Jones Prize, while design, the ultimate end and aim of all these studies, is invited in the subjects given for the Soane Medallion and the Tite Prize. Any student who had taken, year by year, one of these subjects would, I venture to think, when the list was exhausted, have passed through a course of study which would be of infinite value to him in after years, and would equip him with a fund of knowledge which would stand him in good stead in the stress of practice, when little time or opportunity is left for theoretical study.

The standard of work submitted has always been a high one, the prize designs and drawings usually being among the most notable published during the year, and this occasion forms no exception. Except in one or two particulars, I think the work may bear comparison with the best of former years; indeed, some of it seems to me to be a step in advance.

I will take what is usually considered the most popular competition first in order. I refer to the Soane Medallion. The subject given, a large public swimming bath, with two or three accessory rooms, has attracted sixteen competitors. Although this is a rather less number than last year, it may be considered a satisfactory response, and it is gratifying to be able to say that the quality of many of the designs is much higher. Last year the Council felt compelled to withhold the medal, a course which must always be reluctantly taken; but this year there are several designs, any one of which might have received the award.

The site given being an open one, untrammelled by any restrictions, it is curious to note that out of the sixteen competitors no fewer than twelve should have preferred to arrange their main frontage and entrance at one end, the remaining four only utilising the side, the length of which I should have thought would offer the most architectural possibilities. The end frontage and entrance have tempted many competitors to duplicate the accessory rooms asked for in order to balance the grouping, a license which was hardly contemplated and is barely legitimate. It is never intended that the schedule of accommodation should be strictly and rigidly adhered to, but it should not be necessary to vary it materially in order to produce a satisfactory design. These remarks apply with the greatest force to the prize design, that submitted by Mr. Fulton under the motto "Iona"; indeed, to such an extent has he exceeded the prescribed limits that the selection of his design was seriously jeopardised on this ground alone, and it is only owing to its undoubted superiority in other respects that it receives the award. This design is an extremely fine one from the architectural point of view, exhaustively thought out in every detail, brilliant in draughtsmanship, and though a little wanting in some respects in reticence and inclined to be overdone, still, taken all in all, a masterly composition reflecting the greatest credit on its author.

Two designs receive medals of merit, those by Mr. Moodie ("Tepidarium") and Mr. Detmar ("Balneæ"), both of which are excellent sets. Of the two I prefer the former, the management of the plan with the two enclosed courtyards being extremely satisfactory. The interior is also well designed, with an evident appreciation of architectural effect. In Mr. Detmar's design, the planning of the octagon hall cutting into the bath appears awkward, and the reason obscure. There is a touch of genius, however, in the open arch with a group of statuary between the hall and bath.

"Io" (Mr. Vincent Harris) receives honourable mention, and is a clever set of drawings. The interior of the bath, however, though well designed generally, appears to be insufficiently lighted. There are several other designs which may be examined without uneasiness, but it is impossible to particularise all that are worthy of note. I may, however, mention "Amphibious," a clever design of Spanish character; "Silhouette," with a wonderful coloured interior view, and "Roma." Several competitors do not appear to have realised that the treatment was intended to be architectural, and have regarded the problem as one to be solved by engineering rather than architecture, a mistake which ought not to be possible, for the one should comprise and be necessary to the other.

Few of the authors have successfully grappled with the difficulty of the dressing-boxes, which ought not to have been impossible of treatment if not regarded from a too practical standpoint. The chimney-stack has also proved a serious stumbling-block, and not a single author has attempted the solution by twin towers, which, in a Classical or Renaissance design, would, I think, have been a legitimate treatment. It is also difficult to see why so few of the best designs have introduced lighting from the roof, which is almost an essential in a swimming bath, and is surely not beyond the wit of man to compass without much sacrifice of appearance. One notices, with some interest, that the most successful designs are those which have drawn their inspiration from the Baths of Caracalla, a motive which bids fair to prove a sort of universal recipe for many of our problems, from a cathedral downwards, and one is fain to admit that a worse model might have been selected.

The drawings for the Tite Prize are this year disappointing, as, though the number of designs submitted is large, there is no single one among them which unmistakably excels; indeed, I may say that there is not one which can be regarded as quite satisfactory. The subject, a Royal Memorial Chapel, is a purely architectural one, calling for the highest development of the art, and the conditions supplied a plan which was one of Palladio's unworked-out sketches. Competitors were thus at liberty to devote the whole of their thought and study to the architectural treatment of the subject, and it was fully expected that at least one or two very fine designs would have been elicited, especially as so much attention is at present being devoted to Italian architecture. I should here like to explain that the Tite Bequest was made with a view to promoting the study of Italian architecture, and by that should be understood the architecture of Palladio and his contemporaries and followers. This does not appear to be clearly realised by many of the competitors, and year by year the Council are compelled to pass over a number of very excellent designs because they do not fulfil this essential condition.

The design which receives the award this year, "Lion Heart," by Mr. C. Gascoyne, may be said to owe its position rather to negative than positive merit. While it fails in dignity and impressiveness, it is the design against which the fewest objections can be urged on a careful examination of its details. The dome cannot, however, be said to be strictly Italian, and its outline is not very pleasing, and the entrance portico or porch is open to criticism for the manner in which the columns are introduced on each side of a narrow rusticated pilaster. The drawings are well thought out, and the design of the interior is satisfactory.

"In Memoriam," by Mr. Andrew Hutton, receives a medal of merit, and is the most striking design submitted, the perspective being decidedly powerful. There is a great deal of very clever work in this set of drawings, but the dome and drum are disproportionate to the substructure, and the entire composition is overpowered and crushed. The author has evidently considered that light is not essential in the interior of such a building, and the central space under his dome would be gloomy in the extreme.

Three designs receive honourable mention—those submitted by "Marble," "Shamrock," and "Rex." These, while being excellent in some particulars, all fail in some important respects. "Marble" (Mr. Curtis Green) has a well-proportioned exterior, though the architecture is not quite Palladian. The interior is, however, not up to the standard of the exterior, and is in many respects weak in design. "Shamrock" (Mr. E. C. Power) has the best interior of the series, but the introduction of rustication internally may be questioned. The exterior does not appear to have been sufficiently studied in its proportions, resulting in a somewhat clumsy outline; and although in this competition one does not look too critically into questions of construction, I may be permitted to point out that no effort of engineering could ever induce the dome to stand as shown in the section. "Rex" (Mr. A. R. Gough) has a well-executed set of drawings illustrating a design of good and pleasing proportions. The introduction of the two towers or campanili in such close proximity to the dome cannot be considered a satisfactory composition. The dome and other portions of the building are reminiscent of St. Paul's, but the details are weak, and the whole somewhat lacking in vigour and originality.

There are several other designs worthy of note, but which time prevents me from mentioning more particularly. It is curious to observe in looking round the designs how many which are in other respects clever and meritorious have failed in their general proportions, the tendency being to exaggerate the size of the dome and drum. This is specially noticeable in the case of "Gibbs," which but for this fault would have occupied a high place in the competition. Many of the authors have drawn upon the buttresses and other features of Sta. Maria delle Salute, a rather dangerous source of inspiration, in spite of its extreme picturesqueness in its own particular position.

The Grissell Medal has this year attracted six competitors, the design being for a roof of a picture gallery. The competition being for construction only, one does not necessarily look for exceptional merit in an artistic sense. It is, however, interesting to find that the best design constructionally is generally also the best artistically, which tends to show that the practical mind can sometimes descend to consider the pleasing of the eye. Or should I reverse the remark?

Of the six designs two only have adopted what is generally accepted as the most satisfactory method of lighting; that is, by continuous skylights along each side, leaving the central portion solid—a rather difficult method to treat successfully.

The selected design, by Mr. L. U. Grace, is shown in a set of careful drawings which would no doubt result satisfactorily in execution. I did not, however, notice any complete drawing of one of the roof trusses, which seems a rather serious omission.

Nearly all the other designs are worthy of notice, though one or two have manufactured difficulties in order to surmount them, not always with conspicuous success. It is hard to imagine why "Groined Barrel" should have made his roof of elliptical section, both inside and out, in solid concrete. Surely a slope on the outer surface would have been much simpler and easier to construct and to cover. Or, again, why "Fleur-de-Lys" should have used an inner and outer roof-principal, both entirely independent of each other. On the whole, however, all the designs reach a high level of merit.

Turning now to those competitions which do not involve design, but which are devoted to the study of old buildings, I am pleased to note that excellent work is again submitted by all competitors. There is evidence of an amount of enthusiasm and love of their art which leads us to look forward hopefully to the future at the hands of those who will shortly be entering upon active practice.

Twelve competitors have entered for the Pugin Studentship, the award being made in favour of Mr. Wontner Smith, who sends an admirable series of sketches and water-colours. The subjects treated are of a comprehensive nature, embracing both Renaissance and Gothic work in England and on the Continent.

Mr. A. Muir and Mr. J. Myrtle Smith receive prizes of £5 5*s*., and Mr. J. Harold Gibbons honourable mention. All these drawings are of such a high standard of merit that it is difficult to particularise.

The competition for the Silver Medal is one of the most valuable of the series, in that it ensures the careful measurement and delineation of interesting old buildings, thus forming a permanent record which may become of great importance in the future, when the originals shall have succumbed to the hands of the vandal or the ravages of time. For the student, too, there is no work which can give so thorough an insight into the details and methods of the masters of the past as the actual measuring and plotting of the buildings. Sketching is good, but measuring is better. Twelve sets of drawings are submitted, all more or less good, and all of great interest—certainly worthy of much more study than I was able to give them.

The Medal goes to Mr. Gregory, who has an excellent monograph of Bolsover Castle. Mr. Wynn Owen, Mr. Stanley Towse, and Mr. E. F. Reynolds receive £5. 5*s*. each for drawings of Lindisfarne Abbey, Houghton Hall, and Aston Hall, Warwickshire, respectively.

Among other drawings I note a very interesting study of Emmanuel College Chapel, which is certainly one of the most charming buildings in Cambridge, and which I do not remember to have seen illustrated before. I trust many of these drawings will receive publication in some form.

The interest in the Owen Jones Studentship is fully maintained this year, and it is pleasant to recognise that some of those competitors who have been unsuccessful in former years now come forward with better results. The standard of work is a high one, most of the drawings being admirably executed, and showing considerable mastery over the brush. Whether the colouring is not in some cases formed rather by a desire to produce a pictorial than a truthful effect is open to serious question. I suppose colour is a thing which no two people see alike.

I am also struck by the fact that the large majority of the studies are of mosaic, Della Robbia, and kindred materials, and that there are practically no drawings of painted decoration, which would probably be of much more practical service. A vast amount of labour has been expended in showing minutely each separate tessera of a floor or roof, and while one cannot but admire the patience and care devoted to the work, it is impossible to avoid a feeling that some of this energy might have been better employed.

Seven sets of studies have been submitted, the Studentship being secured by Mr. E. H. Bennett, while Mr. Percy Nobbs receives £10. 10*s*., and Mr. McLachlan £5. 5*s*., all of whom are to be congratulated on their work.

The Essay is for some reason never a very popular competition, and this year only four were received. The subject was "The Employment of the Order in Renaissance and Modern Architecture," a theme which at the present moment should be an attractive and inspiring one. It is unfortunate, however, that it has not proved the case, and more unfortunate still that none of those submitted should be of sufficient excellence to merit the award of the medal. That submitted under the motto "Serlio" (Mr. J. J. Waddell) has, however, been awarded a prize of £10. 10*s*.

With the Essay my task is finished, and I have only in conclusion to thank you for having listened patiently to my perhaps too lengthy review.

To those students who have been successful I would say: Regard this as but one step on the long road you are treading. You have achieved something. There still remains more than you will ever accomplish.

To those who have not this time been awarded the spoils of victory: There is no cause for discouragement. The fact of having prepared these drawings, and of having seen how others have attacked the same problem, places you in an infinitely better position for the future, and should serve as an incentive to yet another effort.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS 1834
INCORP. 1837 1887

9, Conduit Street, London, W., *8th Feb.* 1902.

CHRONICLE.

The Prizes and Studentships 1902.

The Annual Exhibition of Designs and Drawings submitted for the Institute Prizes and Studentships for the current year was held at the Galleries of the Alpine Club, Savile Row, from the 14th to the 25th January. The visitors' book shows that nearly a thousand persons visited the exhibition during this period. The competitors numbered seventy-nine, and their work was displayed on 387 strainers. The drawings resulting from the tours of Mr. G. A. Paterson, *Owen Jones Student* 1900, and Mr. H. W. Cotman, *Pugin Student* 1901, were hung on screens in the Meeting-room on the occasion of the Presentation of Prizes last Monday.

The Addresses to Students: Sir L. Alma-Tadema on Tradition in Art.

Prior to the delivery of his Address Mr. Slater explained that the President's engagements in India had monopolised the whole of his time during the past two months, and for this reason the task of addressing the Students and presenting the prizes—functions usually performed by the President—had been undertaken by himself as one of the Vice-Presidents.

The Address and Mr. Hare's Review of the Students' Work were received by the Meeting with manifest approval, which later in the evening was given the happiest expression to by Sir L. Alma-Tadema when moving a vote of thanks.

The business of the prize distribution concluded,

Sir Lawrence Alma-Tadema, R.A. [*H.F.*], addressing the Meeting, said: It is my great privilege to rise to propose a vote of thanks to our Chairman and to Mr. Hare for the admirable way in which they have enlightened us this evening. I must confess that after the excitement produced by sympathy with the successful students one does not get one's thoughts into order at once, but still I will do my best to give you my views on the admirable words of our Chairman. The vexed question in architecture nowadays, that there is no style, or that there are too many styles, whichever way you like to put it, only proves the more the great truth that art is but tradition. Egyptian art developed its own tradition, with many original squirts to the right and to the left—but I will not bore you by dwelling on this. I will only say that when the Greeks rose and became the masters of Egypt, that same Egyptian tradition of art brought forth new forms and new combinations. Egyptian art pure and simple, of course, came to an end with its own people; but its principles and its feelings continued to influence the Greeks, and through the Greeks the Romans, and even modern times through the conquests of Napoleon I., for the Empire style took much from the Egyptian feeling in art. So is it that Babylonian art influenced Greek and Roman art. Then we come to the Middle Ages. I was much astonished once to find that the Norman architects believed that they built Roman architecture, and the Renaissance architects in Italy, as in France, as in England, and as in Germany, were convinced that they built Roman architecture. So even the eighteenth-century architects were convinced that their work was Roman. It is with architects as with us painters. When I see the work of a brother artist that seems strange to me, it is so because I have not been attracted by that phase of nature myself, but when by chance the same aspect of nature presents itself to me, I feel at once how right my brother artist is, how manifold art is, and how necessary it is that the development of art should be based upon the tradition handed down to us by our fathers and mothers. I say fathers and mothers, because there are no fathers without grandmothers, and there are no sons without mothers. I believe in the woman being the essential human element. Thus it is that the Madonna is adored, because she was the mother of Christ, and that Lamartine was right in saying, "Without my mother I would not have been what I am;" and I admire the Americans in that they have a fête day for the mother of Washington. That is a bit of sentiment that leads me a little astray, but I think you will understand. Our art is only beautiful because it is human, and if it is human then it cannot be without sentiment. Therefore it is that we must go on by tradition; we must graft upon that trunk of tradition the individual sentiment that is in our calling, through our surroundings in our art, and then, and only then, shall we produce art worthy of the name. It may be that those who live around us, and are not conscious of the sentiment which induces us to produce that phase of art, cannot see that it is original, just as the men of the eighteenth, the seventeenth, and the sixteenth centuries were not conscious that they produced art characteristic of their own period, and only believed that they built Roman buildings. Now, however, that the sentiment of their time is no longer with us, and that we have ceased to be swayed by their feelings, we are enabled at once to say of a building: "Oh, that is of the first half of such and such a century," or "That is of the second half." I assure you that in the time to come it will be very much the same with what we ourselves have done. We may be a little more changeable, and our quarters of a century may be more varied; but the fact remains. Is not the First Empire style as individual as any other? Is not even the Second Empire style, with its neo-Greek, almost as characteristic of its period? And so it is with our work—we must not judge our modern history too acutely. We are too much in the middle of it to form a judgment. Therefore, let us not speak of making styles; let us try to produce Art under existing conditions. Let us try to do the best, the most appropriate, and the finest that can be done. And in saying so, I think I can best fulfil what is my intention now—viz. to ask you to accord a hearty vote of thanks to our Chairman, and also to Mr. Hare for the excellent report he has given us, in which he explained so well the tendency of the competitions. What we are specially pleased with is the success of the competitions this year, for there is no greater blessing than to know that there are some who will come after us to continue our traditions.

Mr. J. J. Burnet [*F.*], in seconding the vote of thanks, expressed his personal acknowledgments to the Chairman, and also to Sir L. Alma-Tadema, for sounding the one particular note as to the necessity for human feeling in art. He would point out to the students who had been cultivating their minds by studies of the past that perhaps the best way to forget a style would be—and must be, if they were to be successful architects—to sink themselves in human necessity. The basis of all architectural expression was that the architect should be in keen sympathy with the people amongst whom he lived, and whose needs he had to embody in his buildings. These needs must have their most careful study, and the refinement of mind and refinement of thought resulting to students by their studies of the past must now be used quite unconsciously in the service of their fellow-men. Thus their minds would be too full of the interests and the needs of the world around them to think of style at all; they would feel that their first duty was to make a building suitable to its purposes, and those purposes would be expressed beautifully and unconsciously because of the cultivated taste acquired by their studies.

The vote of thanks having been carried by acclamation, the Chairman briefly responded on his own and Mr. Hare's behalf, and the proceedings terminated.

The Holborn to Strand Improvement.

The following correspondence has passed between the Council of the Institute and the London County Council:—

Royal Institute of British Architects,
9, Conduit Street, W.
18th December 1901.

G. Laurence Gomme, Esq., the Clerk to the London County Council.

Dear Sir,—The Council of the Royal Institute of British Architects having had before them the design published in the *Illustrated London News* of the 30th ult. for the island site of the Holborn to Strand Improvement Scheme, and being struck by its extremely unsatisfactory and unarchitectural character, direct us respectfully to convey to the London County Council an expression of their views on the subject.

They venture to express the hope that the London County Council will not under any circumstances consent to the adoption of a design so unworthy of this important site—a design which, besides possessing many undesirable intrinsic features, would be out of harmony and scale with Somerset House and the neighbouring church of St. Mary-le-Strand.—We are, dear Sir, yours faithfully,

Alex. Graham, *Hon. Secretary.*
W. J. Locke, *Secretary.*

London County Council,
County Hall, Spring Gardens, S.W.
22nd January 1902.

The Secretary, Royal Institute of British Architects.

Sir,—I brought your letter of 18th December last, calling attention to the extremely unsatisfactory and unarchitectural character of the design published in the *Illustrated London News* of 30th November for the island site of the Holborn to Strand Improvement Scheme, before the Corporate Property Committee at their meeting on Monday last.

In reply I am directed to inform you that the design in question has not yet formally come before the Council, and that when it does to assure you that it shall receive every consideration, and that due regard will be paid to the architectural features of the buildings erected.—I am, Sir, your obedient servant,

G. L. Gomme,
Clerk of the Council.

The Prize Drawings for Exhibition in the Provinces.

The following selection from the premiated designs and drawings in the Institute Prize Competitions 1901–2 will be exhibited in various parts of the United Kingdom during the next few months under the auspices of the Architectural Societies in alliance with the Royal Institute:—

The Royal Institute Silver Medal (*Measured Drawings*).—Bolsover Castle (2 strainers) by Mr. F. W. C. Gregory (under motto "Cavendo Tutus"), awarded the Medal and Ten Guineas.—Lindisfarne Priory (1 strainer) by Mr. R. Wynn Owen (under motto "Aidan"), Houghton Hall (1 strainer) by Mr. Stanley Towse (under motto "Inca"), and Aston Hall (1 strainer) by Mr. Edwin F. Reynolds (under device "H" in circle), awarded prizes of Five Guineas each.

The Soane Medallion.—Designs for a Swimming Bath: 3 strainers by Mr. J. B. Fulton (under motto "Iona"), awarded the Medallion and £100; 1 strainer by Mr. L. G. Detmar (under motto "Balneæ") and 1 strainer by Mr. T. A. Moodie (under motto "Tepidarium"), awarded Medals of Merit; and 1 strainer by Mr. E. Vincent Harris (under motto "Io"), awarded Certificate of Honourable Mention.

The Owen-Jones Studentship.—Drawings by Mr. Edward H. Bennett (2 strainers), awarded the Certificate and £100; drawings by Mr. Percy E. Nobbs (1 strainer), awarded Prize of Ten Guineas; and drawings by Mr. J. McLachlan (1 strainer), awarded prize of Five Guineas.

The Pugin Studentship.—Drawings by Mr. C. Wontner Smith (2 strainers), awarded the Medal and £40; drawings by Mr. A. Muir (1 strainer) and Mr. J. Myrtle Smith (1 strainer), awarded prizes of Five Guineas each; and drawings by Mr. J. Harold Gibbons (1 strainer), awarded Certificate of Honourable Mention.

The Tite Prize.—Designs for Royal Memorial Chapel in the Italian Style: 1 strainer by Mr. A. Hutton (under motto "In Memoriam"), awarded Medal of Merit; 1 strainer by Mr. A. R. Gough (under motto "Rex"), 1 strainer by Mr. W. Curtis Green (under motto "Marble"), and 1 strainer by Mr. Cyril E. Power (under device of "Shamrock"), awarded Certificates of Honourable Mention respectively.

The Grissell Gold Medal.—Design for a Roof of a Picture Gallery.—1 strainer by Mr. Lionel U. Grace (under motto "Toby"), awarded the Medal and Ten Guineas.

Testimonies of Study.—Drawings by Messrs. W. E. A. Brown and J. A. Fletcher (*Intermediate Examination*).

The Alexander Thomson Studentship.

This Studentship, value 60*l.*, which is in the gift of the Council of the Glasgow Institute of Architects, was founded in 1880 for the furtherance of the study of ancient classic architecture as practised prior to the third century of the Christian era, and with special reference to the principles illustrated in the works of the late Alexander Thomson. It is competed for every third year, and is open to any architectural student between the ages of eighteen and twenty-five years, a native of and residing within the United Kingdom. The better to stimulate the study of the styles of architecture specified, the Trustees have divided the programme for the present year's competition into two sections—(1) a Restoration, (2) a Design—intimating that in awarding the prize the first mentioned will be deemed of equal importance with the second, and that in both special consideration will be given to evidences of careful study and exact and sympathetic rendering of the styles prescribed.

The subjects set are:—

I. Restoration of the Octagon Tower of Andronicus Cyrrhestes (or Tower of the Winds) at Athens. Drawings required: (*a*) Plan and Section, scale $\frac{1}{4}$-inch to a foot; (*b*) Elevation, $\frac{1}{2}$-inch to a foot; (*c*) Detail of Order at Doorways, with other optional details, scale 6 inches to a foot.

II. Design for a Building to accommodate the Fine Art Department of a University situated in Greece. (The site, style, accommodation, and material are specified in the conditions.) Drawings required: (*a*) Plan of buildings with approaches, scale $\frac{1}{8}$-inch to a foot; (*b*) Front and side (or back) elevations; (*c*) Longitudinal and transverse sections; (*d*) Part exterior and interior detailed, scale $\frac{1}{2}$-inch to a foot, with a selection of the mouldings drawn full size; (*c*) Perspective view, building not to measure more than 20 inches in width.

Competitors must also submit a drawing from the round shaded, and at least two sheets of architectural sketches.

Should the number of the competitors and the quality of the work submitted warrant it, an additional prize of 20*l.* will be given for the drawings placed second. The competition drawings must be sent to the Secretary of the Glasgow Institute, 115, St. Vincent Street, Glasgow, the last day for sending in being the 26th December next. The successful student will be required to pursue his architectural studies on a sketching tour for a period of three months. Further particulars will be furnished by Mr. C. J. Maclean, Secretary of the Glasgow Institute.

LEGAL.

Concrete Staircases.

ROWTON HOUSES LTD. *v.* CROW.

Mr. Arthur Crow [*F.*] sends the following report of the proceedings in this case:—

This case, which was heard by the Tribunal of Appeal on the 21st January, is one of considerable importance on account of the authoritative opinions expressed by the members of the Tribunal, Messrs. J. W. Penfold, A. A. Hudson, and E. A. Gruning, as to the use of granite chippings, coke breeze, and Portland cement in combination with an iron core as materials for the steps of staircases.

The point at issue between the appellant company and the District Surveyor was as to the stability in case of panic of the staircases in the Rowton House, Fieldgate Street, Whitechapel, which is now approaching completion, and forms the fifth of the series of popular hotels for men with which the names of Lord Rowton and Sir Richard Farrant have for so long been associated.

The staircases in question are three in number and designed on the geometrical principle with open well-holes for light and ventilation. Each flight of steps is 4 feet 6 inches in width, measured from the face of the wall to the iron balusters, and contains in most cases seven steps.

The steps are spandril in section, with square ends pinned 9 inches into the wall. Each step is rebated to the one below and jointed in cement. They are cast in moulds and have two 1½ inch by 1½ inch angle irons in each step. The tread and nosing of the step is formed of granite chippings and Portland cement, 2 inches thick, in the proportions of two of chippings to one of cement. This portion is filled into the moulds first, and the remainder of the step filled in with fine coke breeze and cement in the proportions of three of breeze to one of cement. These steps are built in at the time of the construction of the walls. The quarter-space landings are carried by two 3 inch by 3 inch steel joists to each landing, built into the walls as cantilevers at the same time as the steps, and chases are left to receive the concrete filling, which is put in after the walls are completed. The materials used in the landings are the same in every respect as in the steps, the only difference being the substitution of the steel joists for the angle irons.

The District Surveyor, Mr. Arthur Crow, took exception to this method of construction and intimated to the company's architect, Mr. Harry B. Measures, at the time the plans were submitted to him, that he should require the steps to be supported at their outer ends either by a newel wall or by steel strings. No notice having been taken by the company of this requirement, and no other provision having been made for strengthening the stairs, he served formal notice upon the company and their building manager, requiring them to provide steel strings under the unsupported ends of the stairs throughout the building. From this notice the company appealed to the Tribunal on the ground that "the method of construction adopted was adequate in every respect for the purposes intended."

The appellants were represented by Mr. William Morris, of the firm of Ashurst, Morris, & Co., solicitors, and the respondent by Mr. D. Palmer Andrews, from the Solicitor's Department of the London County Council.

Mr. Morris, after briefly outlining the facts of the case, stated that the staircases in the Rowton Houses at Hammersmith, Newington, and King's Cross had been constructed on exactly the same lines and with the same materials as had been adopted at Whitechapel, and that in neither case had the District Surveyor of those districts raised the slightest objection.

The architect, Mr. Measures, was then called and described the arrangements of the building and the general construction of the staircases. In order to test the strength of the staircases he had had one of the flights containing ten steps loaded with 2,000 glazed bricks weighing 8 lbs. each, giving a total load of nearly 7¼ tons, or over 14 cwts. per step. So far as he could see, after forty-eight hours no injurious effect had resulted, but there was a slight crack a few inches long in the plaster soffit at the junction of the flight with the quarter-space landing. This he attributed to the fact that the landings were not put in at the same time as the steps, and that at the point in question there was a dubbing out of the breeze concrete which would lead to an unequal expansion. The flight was strutted up during loading, and, with the exception of about half-an-hour whilst a photograph was being taken, the strutting was left in position but with the wedges either loose or just hand tight. He had estimated the greatest load which it would be possible to place upon the stairs. Assuming that four men could be packed on each step, and their average weight was 12 stone, this would give 6 cwts. per step, and as under such circumstances no movement could take place the question of an allowance for a live load need not be considered.

In cross-examination Mr. Measures stated that no other test had been applied elsewhere, and the steps were not subjected to any test before they were fixed. The accommodation provided was for over 800 men, and, in case of fire, if one staircase became involved each of the other two would have to afford means of escape for at least 400 men. He thought a staircase on the cantilever principle sufficiently strong for the purpose, but would limit such staircases to a width of 5 feet, with a deeper step 6 feet might be allowed. The metal core was advantageous: it was the last resource in case of fracture. He admitted that in lieu of new angle iron they generally used bedstead irons. He thought there would be complete adhesion of the cement with the iron; the japanning of the iron would not interfere, as all trace thereof had long since vanished. There might be a crack through the centre of the step owing to the bedstead irons. The steps would not be so strong with bedstead irons as with constructional steel. He could not swear there were two irons in each step, but the manufacture was in the hands of a responsible man. He admitted there were certain cracks in the staircases at Newington, which Mr. Crow had pointed out to him when he visited the building prior to the commencement of the Whitechapel building, but thought these were due to the expansion taking place at different times, owing to the fact that the steps were built in as the walls were carried up and the landings inserted afterwards. The proposed strings would give support to the outer ends of the steps, and would be advantageous in case of special stress. There was no reason for panic in any of their buildings, and no exceptional strain had ever been placed on the staircases.

In reply to Mr. Gruning, Mr. Measures stated that a little breeze concrete was laid on the top of the granite before the angle irons were put in, but the angle irons were near the line of junction.

Mr. G. J. Earle, the company's building manager, gave evidence as to the quality of the various materials used on the works. The cement weighed 112 lbs. per bushel, left four per cent. residue on passing through a 76 by 76 sieve, and would withstand a breaking load of 600 lbs. to the square inch after twenty-eight days. The granite chippings were free from dust and would pass through a ⅛ to ⅜ inch mesh. He was not prepared to say what the breaking-weight of the step was. The cracks at Newington were due to the different expansion. In cross-examination as to the test which had been applied at Whitechapel, he admitted that the crack in the dubbing out of the soffit was due to the unusual load. It was not, at the present time, a "constructional crack," but might develop into one. A live load of the same weight might have brought about a failure. The bedstead irons were not tested in any way, nor were they rejected if it were possible to get them into the moulds. The japan had all gone before they received them, and in some cases the rust was dropping off. He could not give the ultimate strain for concrete.

In reply to Mr. Gruning, he said the strain on the stairs would be greatest towards the lowest steps next the quarter-space landings. The steel strings would not be advantageous, as in case of fire they would give way; they could, however, be protected.

Mr. D. P. Andrews, for the respondent, pointed out that there might be latent defects in the staircases, and that for the protection of persons who resorted to this class of building the contingency of a panic should be taken into account. It was intended to accommodate 800 persons, most of whom would be strangers to each other, and many of them without any knowledge of the arrangement of the means of egress from the building. Sections 68 and 80 of the Act seemed to contemplate that the stairs in public buildings should be supported at both ends. It was reasonable to look upon this building as in the nature of the class of buildings contemplated by Section 80 of the Act. The building in question was by definition a "public building," and as such the responsibility for the entire construction was placed by the Building Act upon the District Surveyor, who declined to take the responsibility of passing the construction of the stairs without strings at the outer ends. He drew particular attention to the fact that, by the evidence on behalf of the appellant, it was disclosed that the angle-iron used in the construction of the steps was what is known as bedstead iron and had not been subjected to any test, and submitted that the Tribunal should not take the responsibility of passing the plan when it had been admitted in cross-examination that the strings would afford an additional safeguard against the failure of the stairs from extraordinary stress.

Mr. Crow, the District Surveyor, in his evidence stated that whilst the plans of the building were under consideration he had, at Mr. Measures' request and in his company, made a careful inspection of the Rowton House at Newington, paying special attention to the staircases. He pointed out certain settlements or open joints in the flights of steps where they joined the landings, and told Mr. Measures he should require both ends of the steps of the proposed building to be supported. He considered the projection of 4 feet 6 inches was too great for this form of staircase and that the steps were liable to snap off close to the wall, in which case the angle irons would be liable to draw out. He then dealt with the evils which were likely to arise from the employment of two different mixtures of concrete in the same step. The greater density of the granite, coupled with the larger proportion of cement used in forming the tread, would be likely to cause a greater expansion than would take place with the breeze concrete forming the body of the step, and a want of complete homogeneity would ensue. This evil was accentuated by the close proximity of the upper flanges of the angle irons to the line of junction of the two different kinds of concrete, and by the fact that the expansion of the cement was not confined to the time of setting, but extended over a period of many months.

In reply to Mr. Gruning he thought the presence of an iron core was objectionable on account of the greater expansion and contraction which would take place in the metal owing to variations in temperature. Short steps under 3 feet in length he thought would be better without a core, but in long steps the presence of a steel core might give greater flexibility to the steps and render them less liable to fracture under a cross strain. After deprecating the use of coke breeze as an aggregate for concrete when required to withstand a severe transverse strain, Mr. Crow went into his calculations of the load which in time of panic the steps might have to carry. He allowed three men to each step, and assumed the average weight of a man to be 11 stone. This gave $4\frac{1}{8}$ cwts. As, however, the mass would be in motion the load must be doubled to obtain the equivalent live load, making $8\frac{1}{4}$ cwts., which together with the weight of the step (2 cwts.) would give a total of $10\frac{1}{4}$ cwts. for each step. He then dealt with the question of the factor of safety and suggested that with such uncertain conditions as existed in a step composed of the various materials described the factor of safety should not be less than five or six, which would give at least 50 cwts. as the breaking load for which each step should be calculated. He drew attention to the fact that the test actually applied did not nearly approach this figure, being in fact little more than half as much again as the load which might be placed upon the steps in time of panic. He suggested that the deflection which had taken place under the test, as shown by the cracking or opening of the joint, indicated that a sufficient margin of stability had not been allowed. The provision of steel strings would convert each step from a cantilever into a small girder, and thus materially increase its strength.

In cross-examination Mr. Crow stated that he had no fault to find with any other part of the building; precautions had been taken to prevent the spread of fire. The floors were of iron and concrete. Whilst admitting that it would be impossible for the building to be totally destroyed by fire, yet a panic might arise from causes entirely extraneous. He pointed out that adjoining the building was a theatre and other premises, the flames and smoke from which in case of fire would envelop the whole of the back windows of the hotel. When once a man got possessed with the idea that his life was in danger all sense of responsibility left him and he became an unreasoning savage.

Mr. W. G. Perkins, of the Architects' Department, London County Council, gave evidence as to the strains which the steps would have to withstand. He had estimated for a dead load on each step of $5\frac{1}{2}$ cwts., which would cause a bending moment of 16,632 inch lbs. The steps being cantilevers, the portion of the step above the neutral axis would be in tension, and the load he had estimated would give a tensile strain on the tread of the step of 180 lbs. per square inch. This was omitting the iron core, the value of which, for the reasons given by other witnesses, was uncertain. The strength of the granite and cement concrete forming the tread he had taken at 100 lbs. to the square inch, upon which basis the stresses in the steps under the assumed load were very much too high. The combination of two different kinds of concrete rendered it difficult to make reliable calculations. The matter was further complicated by the presence of the bedstead irons and the spandril section of the steps. The form of the staircase would tend to set up a torsional strain. He had carefully considered the question, and was of opinion that sufficient margin of stability had not been allowed.

At this stage the further hearing was adjourned in order to allow the Tribunal to inspect the building, which they did on Monday, the 27th January, when they were shown over the building by Sir Richard Farrant and the architect. Upon examining the flight of steps which had been subjected to the test it was found that the plaster soffit was breaking away at the point where the upper step abutted upon the quarter-space landing, and that the joint between the step and the landing had opened throughout nearly its entire length. So far as could be seen, there was no fracture in either the steps or the landing, and with the exception of the damage to the plaster soffit and the open joint the flight appeared to be sound.

After the inspection an adjournment was made to the reading-room, where the decision of the Tribunal was given.

Mr. Penfold stated that the Tribunal had with considerable regret come to the unanimous conclusion that the staircases were faulty in construction. They were reluctant to come to this decision on account of the general excellence of the work shown in the rest of the building. They directed that further steel joists be placed under each of the main landings, and that bent steel strings be carried from thence under each flight of steps and under the quarter-space landings, and the ends pinned into the external walls. The details of the steelwork would be subject to the approval of the District Surveyor, with leave to the company to apply in case of a further difference arising.

Mr. Hudson expressed his opinion that the margin of safety allowed in the present case was not nearly sufficient, and pointed out that considerable allowance should be made for the uncertain action of Portland cement. Even when the greatest care had been exercised in the manufacture and proper precautions taken for cooling, the carelessness of a workman in mixing the cement might cause serious latent defects.

Mr. Gruning strongly condemned the system of using coke breeze for the body of the step with a facing of granite chippings and cement. Concrete steps should be absolutely homogeneous, and in this respect he looked upon an iron core as a source of weakness rather than of strength, the oxidation and expansion of the metal tending to cause disruption of the materials. He would prefer steel wires embedded in the concrete, and considered that the steel joists of the main landings should have been placed underneath the landings instead of being embedded in their thickness, as the mode of construction adopted caused too great a severance in the body of the concrete very near to the edges of the landings on which the bottom step of each flight rested. He fully endorsed Mr. Penfold's expressions with regard to the general excellence of the work.

MINUTES. VI.

At the Sixth General Meeting (Business and Ordinary) of the Session 1901–1902, held Monday, 3rd February 1902, at 8 p.m., Mr. John Slater, B.A.Lond., *Vice-President*, in the Chair, with 21 Fellows (including 12 members of the Council), 24 Associates (including 3 members of the Council), 2 Hon. Associates, and visitors, the Minutes of the meeting held 20th January [p. 118] were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted by the Chairman and signed the register—viz. Frederick Dare Clapham and Lionel Gordon Detmar.

The decease was announced of Walter Green Penty, *Fellow*, of York.

The following candidates for membership were elected by show of hands under By-law 9, viz.:

As Fellows (4).

JOHN PARKER (Cape Town).

ANDREW NOBLE PRENTICE [*A.* 1891, *Soane Medallist* 1888].

JOHN ROBERT MOORE-SMITH [*A.* 1896].

FREDERICK HENRY TULLOCH [*A.* 1889] (Belfast).

As Associates (34).

CHARLES THOMAS ADSHEAD [*Probationer* 1894, *Student* 1897, *Qualified* 1901, *Ashpitel Prizeman* 1901] (Liverpool).

SIDNEY WALTER BENSTED [*Probationer* 1893, *Student* 1897, *Qualified* 1901].

ERNEST GEORGE BESANT [*Probationer* 1896, *Student* 1899, *Qualified* 1901] (Cambridge).

AUSTIN BARUGH BOTTERILL [*Probationer* 1895, *Student* 1897, *Qualified* 1901].

CHARLES ALFRED BROADHEAD [*Probationer* 1898, *Student* 1899, *Qualified* 1901] (Nottingham).

DEAN JOHN BRUNDRIT [*Qualified Special Examination June* 1901] (Ulverston).

HAROLD BUSBRIDGE [*Probationer* 1892, *Student* 1895, *Qualified* 1901].

RALPH SCOTT COCKRILL [*Probationer* 1896, *Student* 1898, *Qualified* 1901] (Great Yarmouth).

WILLIAM JOHN DEVLIN [*Probationer* 1891, *Student* 1896, *Qualified* 1901].

WALTER ERNEST DOBSON [*Probationer* 1894, *Student* 1900, *Qualified* 1901].

JAMES EWING [*Probationer* 1897, *Student* 1898, *Qualified* 1901].

EDWARD LAWRENCE GAUNT [*Probationer* 1900, *Student* 1900, *Qualified* 1901] (Bradford).

ARTHUR EVERETT GIBBINS [*Probationer* 1895, *Student* 1897, *Qualified* 1901] (Brighton).

FRANCIS ROBERT BOYD HAWARD [*Probationer* 1898, *Student* 1900, *Qualified* 1901] (Great Yarmouth).

RALPH EUSTACE HEMINGWAY [*Probationer* 1898, *Student* 1900, *Qualified* 1901] (Nottingham).

AUGUSTUS EDWARD HUGHES [*Probationer* 1894, *Student* 1898, *Qualified* 1901].

ALLEN TREVIS HUSSELL [*Qualified* 1901, *Special Examination*] (Ilfracombe).

ERNEST WILLIAM LEES [*Probationer* 1892, *Student* 1896, *Qualified* 1901].

EDWARD BERKS NORRIS [*Probationer* 1897, *Student* 1899, *Qualified* 1901] (Birmingham).

LEONARD RYCROFT OAKES [*Probationer* 1896, *Student* 1899, *Qualified* 1901].

HAROLD FREDERIC PONTON [*Probationer* 1894, *Student* 1897, *Qualified* 1901].

CYRIL EDWARD POWER [*Qualified Special Examination* 1901; *Soane Medallist* 1900].

WILLIAM BEDDOE REES [*Probationer* 1898, *Student* 1900, *Qualified* 1901] (Cardiff).

CHARLES HERBERT REILLY, M.A.Cantab. [*Probationer* 1896, *Student* 1898, *Qualified* 1901].

ERNEST GEORGE RODWAY [*Probationer* 1895, *Student* 1897, *Qualified* 1901] (Bristol).

ANDREW SHARP [*Qualified Special Examination Montreal* 1901] (Montreal).

GEORGE LISTER THORNTON SHARP [*Probationer* 1897, *Student* 1900, *Qualified* 1901].

WILLIAM SLATER [*Probationer* 1889, *Student* 1893, *Qualified* 1901] (Nottingham).

FRANCIS DANBY SMITH [*Probationer* 1894, *Student* 1898, *Qualified* 1901].

WALTER STEPHEN TUCKER [*Probationer* 1895, *Student* 1896, *Qualified* 1901] (Newmarket).

ARTHUR HALCROW VERSTAGE [*Probationer* 1894, *Student* 1897, *Qualified* 1901] (Godalming).

EDWIN PAUL WHEELER [*Probationer* 1893, *Student* 1896, *Qualified* 1900].

JOSEPH ALFRED WOORE [*Probationer* 1895, *Student* 1897, *Qualified* 1901] (Derby).

EDMUND LIVINGSTONE WRATTEN [*Probationer* 1897, *Student* 1899, *Qualified* 1901].

The following applicant for Associateship, found by the Council to be eligible and qualified according to the Charter and By-laws, was recommended for election—viz. Charles Henry Gage [*Probationer* 1894, *Student* 1896, *Qualified* 1901].

The Chairman announced that the Council proposed to submit to His Majesty the King the name of Mr. J. F. Bentley as a fit recipient of the Royal Gold Medal 1902, for his executed works as an architect.

The Chairman delivered an Address to Students, and Mr. H. T. Hare [*F.*] read a Paper reviewing the Works submitted for the Prizes and Studentships 1902.

The Chairman presented the various prizes in accordance with the Deed of Award [pp. 143–145] and introduced the Travelling Students for the year.

The following presentations were made to past year's Travelling Students, whose work had been approved by the Council:—

Certificate to Mr. George Andrew Paterson, *Owen Jones Student* 1900.

The Godwin Medal to Mr. Sydney Kyffin Greenslade [*A.*], *Godwin Bursar* 1900.

Silver Medal to Mr. Henry William Cotman, *Pugin Student* 1901.

On the motion of Sir L. Alma-Tadema, R.A. [*H.F.*], seconded by Mr. J. J. Burnet, A.R.S.A. [*F.*], a vote of thanks was passed by acclamation to the Chairman for his Address and to Mr. Hare for his Review of the Drawings.

The Chairman having made brief acknowledgment the proceedings closed and the Meeting separated at 9.15.

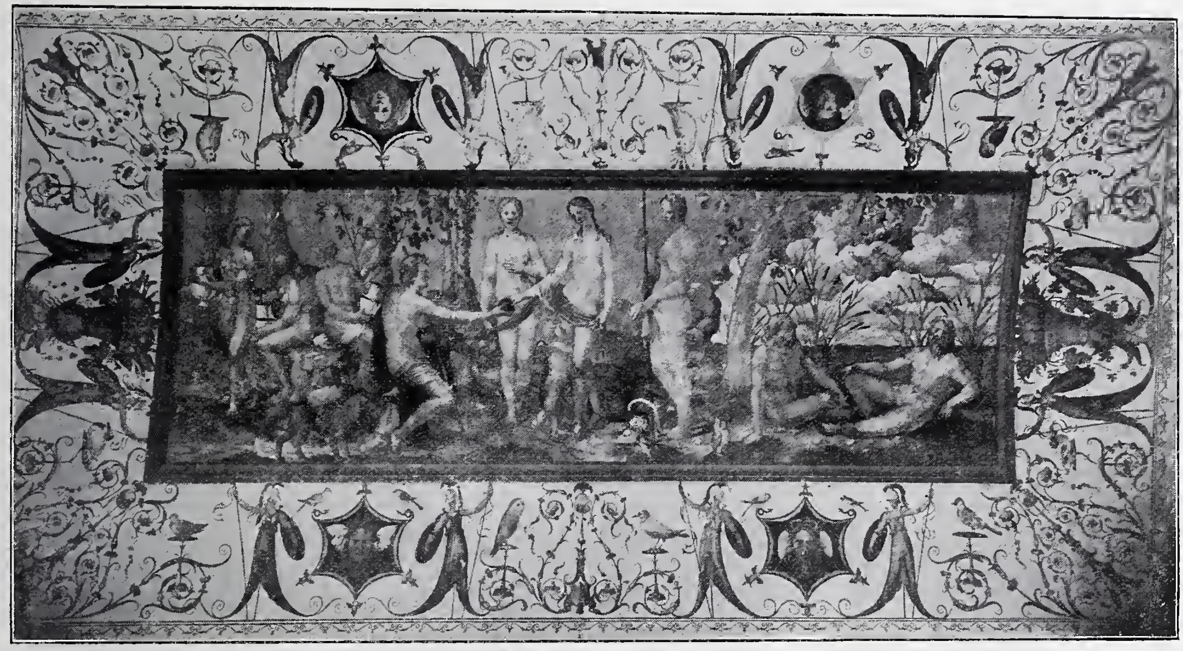

Photo. Lombardi.

Judgment of Paris, by Baldassare Peruzzi. Ceiling Painting in Villa Belcaro, near Siena.

BALDASSARE PERUZZI.

By Francis W. Bedford [*F.*], *Ashpitel Prizeman*, *Owen Jones Student.*

Read before the Royal Institute of British Architects, Monday, 17th February 1902.

IT is with much diffidence that I come here this evening to speak to you of Baldassare Peruzzi, because I feel that I should have devoted much more time to the study of his work, and should have paid a special visit to Italy to compare my notes with his buildings, some of which I have not seen. I hope, therefore, that you will give me your indulgence and take what I am going to say, not as a complete and reliable life and account of Peruzzi and his works, but merely as a contribution in admiration of his great genius. I feel this the more because I see in our Transactions that a paper on the same architect was read before the Institute, in 1859, by Samuel Angell, and for the time which has elapsed since then what I am able to add seems small indeed.

We are principally indebted to Vasari for all we know of the eventful life of Peruzzi—a life spent mostly in misery and poverty. A few passages in contemporary writers and the researches of modern times have helped to throw light on various points he does not make clear or omits to mention, but no modern writer has attempted, as far as I know, to give us a full account of Peruzzi's life and work, both as painter and architect, in the same way that Baron von Geymüller has done for Bramante and Raphael. Anyone, therefore, wishing to know more of this artist than is to be found in Vasari has to consult a great many books and papers, copies of which in many cases are not to be found in any of the English libraries.

Vasari mentions that Florence, Volterra, and Siena each claimed to be the birthplace of Peruzzi, and that his father was Antonio Peruzzi, a noble of Florence, who had gone to live in Volterra, where he married in 1482, and where his son Baldassare was born one or two years later. It has, however, been proved that Vasari was wrong in the name of the father, the place of birth, and the date. Angell and Matas,* and one or two other writers about the middle of last century, give the village of Ancajano, near Siena, as Baldassare's birthplace. Peruzzi always called and signed himself "Senese," and from documents preserved in Siena it appears that he was born in Siena on 7th March, 1481 (common style).

His father was Giovanni di Salvestro di Salvadore Peruzzi, and his son's baptismal name was Baldassare di Giovanni di Salvestro di Salvadore Peruzzi. The father was not a noble of Florence, but a weaver of Volterra, who in consequence of bad trade following on the sack of that town had settled in Siena.

Baldassare delighted in frequenting the workshops of the goldsmiths and others who practised the art of design. The Sienese were then busy with their Cathedral, and no doubt Peruzzi took great interest in it and spent much time in watching the masons, sculptors, and painters at work there; in fact, at the age of twenty years, in 1501, he was appointed assistant to Pinturicchio, who was engaged in painting the Chapel of S. Giovanni.

Soon after this, Peruzzi went to Volterra, where he painted a chapel near the Florentine gate. Whilst in Volterra he made the acquaintance of Pietro di Andrea da Volterra, who induced him to go to Rome, where he (Pietro) was engaged in painting some rooms in the Vatican for Pope Alexander VI.

Arrived in Rome, Peruzzi entered the workshop of "the father of Maturino," where he painted a marvellous picture which astonished his master and other artists who saw it, which was the way a genius usually introduced himself in those days. These artists were much impressed by Peruzzi's power of design and painting, and obtained for him his first commission in Rome, which is supposed to have been the painting of the choir in S. Onofrio. Peruzzi seems to have made a considerable reputation by these paintings, and we find him then decorating two chapels in the church of S. Rocca-a-Ripa and being invited to Ostia, where he decorated some rooms in the tower of the fortress. From Ostia, Baldassare returned to Rome, where he became the friend of Agostino Chigi, a rich Sienese banker, who supported him while he devoted himself to the study of the architectural antiquities of ancient Rome. His stay in Rome probably extended from about 1503 to 1522.

During this period he seems to have been remarkably busy and to have painted and designed a great many buildings. Whether he visited Siena at this time or not Vasari does not say, although he mentions two small works there, but he next describes Peruzzi's visit to Bologna on the invitation of the wardens of S. Petronio, that he might take part in the competition for the completion of that church.

After remaining for some time in Bologna, Peruzzi was "almost compelled to return to Siena, whither he was summoned to prepare designs for the fortifications of the city," † so that one is led to suppose, by the use of the word return, that he had made a stay in Siena between leaving Rome and visiting Bologna.

The reconstruction or strengthening of the defences of Siena being completed, Peruzzi once more returned to Rome, where he was engaged on S. Peter's and many other important works.

> "Then came the year 1527, and in the cruel sack of Rome poor Baldassare was made prisoner by the Spaniards, and not only lost all he possessed, but was also maltreated and shamefully tormented, for, having a grave, noble, and commanding aspect, they believed that he was a great prelate disguised or a man who could pay a large ransom. These impious barbarians having finally discovered that he was a painter, one of them, a devoted adherent of the Constable of Bourbon, made him paint a portrait of that reprobate captain, enemy of God and of men, either by showing him his dead body, by

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* N. Matas, *Elogio che l'anno* 1842 *fu consacrato alla Memoria di Baldassare Peruzzi.* Pisa, 1852.

† Vasari's Life.

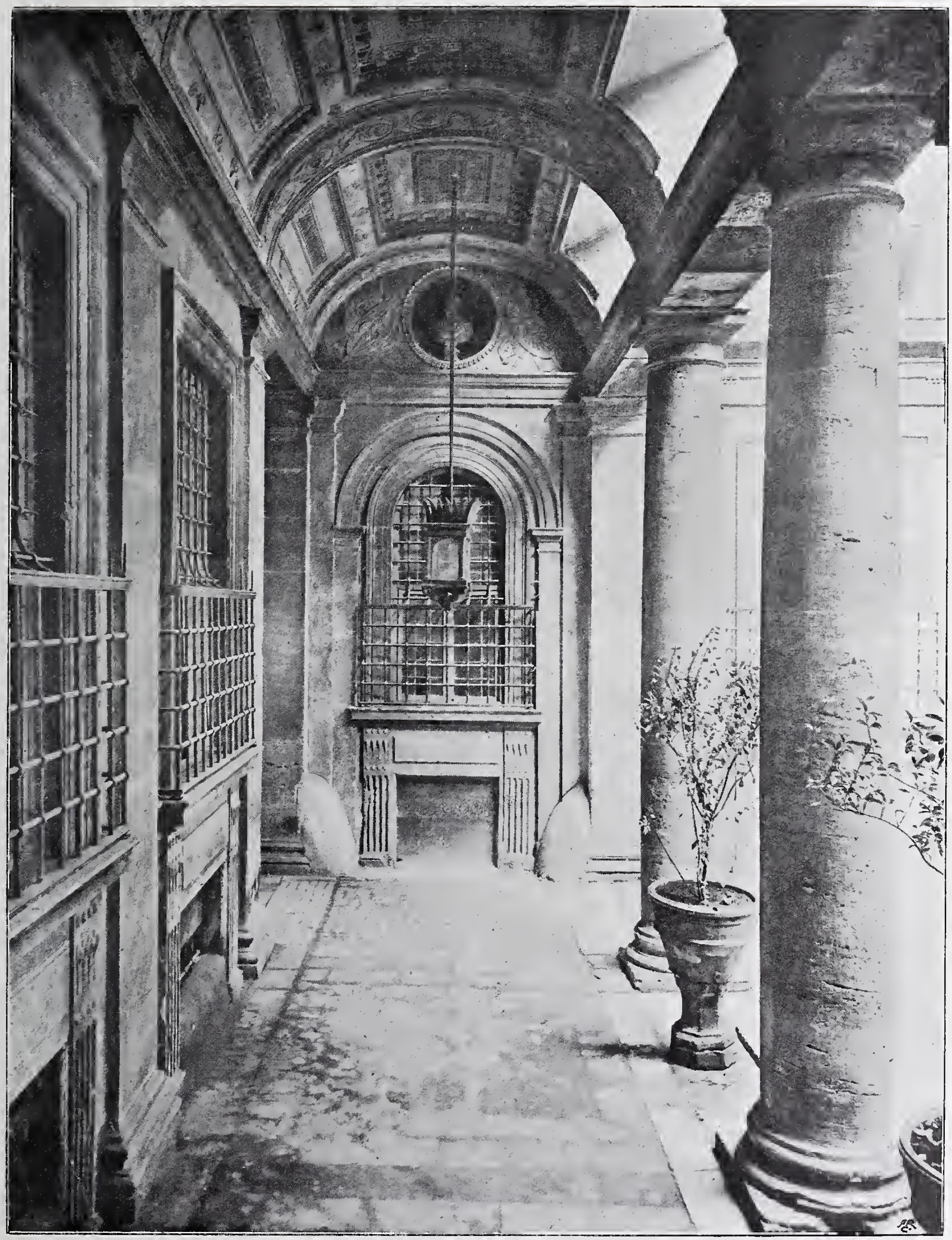

FIG. I.—LOGGIA IN THE CORTILE, PALAZZO MASSIMI DELLE COLONNE. (B. PERUZZI, ARCHITECT.) *Photo. Alinari.*

drawings, or by describing him in words, or by other means. After that, Baldassare having escaped from their hands (he was really ransomed by the Republic of Siena), he took ship for Porto Ercole, and from there to Siena, but on the way he was stripped and robbed of everything he possessed, so that he arrived in Siena in his shirt. Nevertheless, being honourably received and reclothed by his friends, he was before long ordered to receive provision and a salary by the Council, and appointed to superintend the fortifications of the city." *

In 1529 we find Peruzzi before the walls of Florence where he had been sent by the Pope to help the Papal and Sienese armies in subduing the city. Vasari says that Peruzzi was not to be prevailed upon to lend his assistance in the attack, whereby he earned the Pope's displeasure, but it has been proved by documentary evidence that Peruzzi did help the Sienese to the utmost of his power.

After the war, Peruzzi once more returned to the Eternal City, and soon became again busily engaged in the erection of various palaces, and on St. Peter's.

He found time, however, to study astrology and mathematics, and became so expert in the art of perspective drawing that he was considered to surpass all other masters of his day. He commenced also a book on the antiquities of Rome, with a commentary on Vitruvius, and prepared many drawings for the illustrations. Vasari tells us that some part of these writings "are now in the possession of Francesco da Siena, who was his disciple." Whether these are the same drawings and writings which came into the possession of Serlio is not known, but Serlio was another of Peruzzi's pupils, and he used many of his master's drawings and notes in his work entitled *I Cinque Libri d'Architettura*, printed in Venice in 1551, where, in the introduction to the fourth book, he says:—

> "For all you will find in this book which pleases you, do not give praises to me, but give them well to my predecessor Baldassar Petruccio da Siena, who was not only very learned in this art, by theory and by practice, but was also courteous as well as liberal in instructing those who were interested, especially to me, all of which, as I know so well, recounts to his benignity."

Many writers speak in eloquent terms of Peruzzi's nobility and modesty of mind, which, however, were imposed upon by his patrons, so that in his old age he was very poor. As he lay on his death-bed, to which he had been brought not without a suspicion of poison, Pope Paul III. sent him 100 scudi and many promises. He died on 6th January 1536 (or 1537 new style) and was buried in the Pantheon by the side of Raphael.

Having given you a brief outline of the chief incidents in Peruzzi's life as we know it from the meagre details which have come down to us, I now come to the work he has left behind him, to be seen in Italy to-day, to work spoken of by various authors but no longer existing, and to work which has been attributed to him.

I propose to deal first with his work as an architect, and then I shall have a few words to say with regard to his paintings. I shall not attempt to give them according to the order in which they were executed, as in most cases we have no dates to rely on.

PERUZZI AS ARCHITECT.

Rome.—In one of the latest editions of Vasari, Peruzzi is stated to have designed the mosaics in the crypt of Santa Croce in Gerusalemme in 1500. Frizzoni † assigns them to the period 1503–1513; but as Peruzzi, as I have already stated, is known to have been in Siena in 1501, when he received a payment for the work he did in the Chapel of S. Giovanni

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* Vasari's Life.

† G. Frizzoni, *Arte Italiana del Rinascimento.* Milan, 1891.

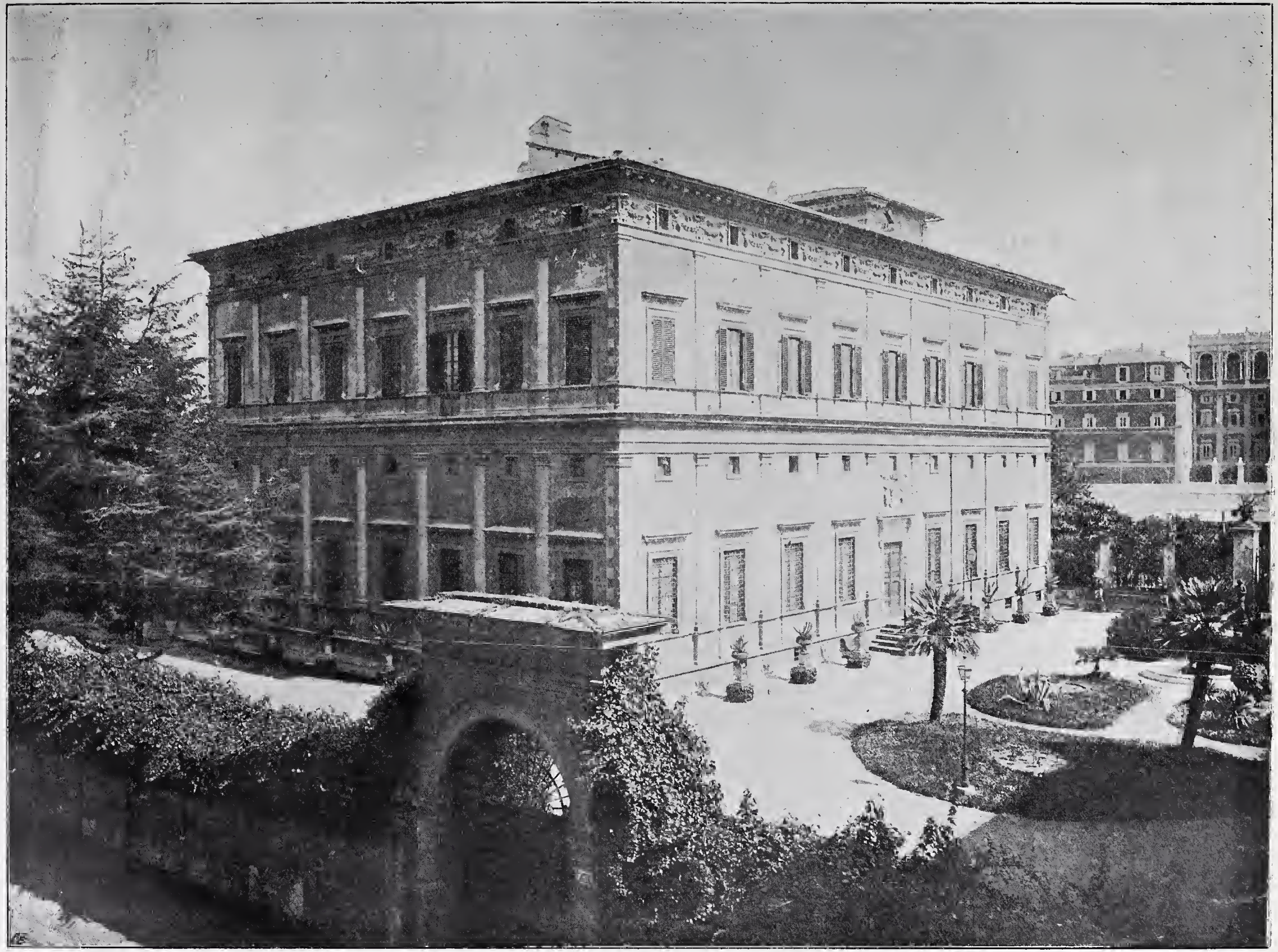

FIG. 2.—THE VILLA FARNESINA, ROME. (B. PERUZZI, ARCHITECT.)

Photo. Alinari.

as Pinturicchio's assistant, I should give the date of 1503 as the year in which he arrived in Rome. He appears to have remained in Rome until about 1522, with probably only a short absence when he carried out the work at Ostia.

His best known work, perhaps, in Rome is the Palazzi Massimi, two palaces built side by side for two brothers. Their authorship, as far as I know, has never been questioned. They are too well known to you, I am sure, to need further description, for they were justly admired by Peruzzi's contemporaries, and have since been held to be among the masterpieces of the Renaissance. The beauty of the plan and the refinement of the details have never been surpassed, although Monaldini,* while highly praising the palaces themselves, complains of the ceiling of the portico as being too ornamental for the simple front, and that the doorway, while being "gentile," "Ha di superfluo i dentelli ed i modiglioni." The Cortile of the Palazzo Massimi delle Colonne, although small, is one of the most charming in Rome [fig. 1, page 167].

Another still more famous work, for which Peruzzi's title of architect has not been disputed until recently, is the Villa Farnesina [fig. 2, page 169], built for Agostino Chigi. Baron Von Geymüller † has tried to prove that this villa was designed by Raphael; but his arguments have not been generally accepted, nor are they very convincing. I think that in his admiration for Bramante and Raphael his enthusiasm has led him to place all other contemporary architects in a very inferior position as being the mere creatures of these two great minds, and our poor Peruzzi has suffered most in his strenuous endeavours to prove that all, or nearly all, the fine conceptions of that time emanated from them.

It would not be possible in a short paper like this to go into all the reasons Geymüller gives which have convinced him that Peruzzi was not the architect of the Farnesina, or of much of the work which has generally been attributed to him in connection with St. Peter's, of which I shall speak again shortly. The principal reasons he adduces in favour of Raphael as the architect are:—

1. That Agostino Chigi was a friend of Raphael's. But he was also a friend and fellow citizen of Peruzzi's. Vasari says Peruzzi "contracted a most intimate friendship with Agostino Chigi of Siena, who received him into his intimacy, not only because Baldassare considered himself a Sienese, but also because Agostino was by nature the friend of all distinguished men." Also, "with the assistance of such a man as Agostino Chigi, Baldassare found means to afford himself leisure for remaining some time in Rome, occupied solely with the study and examination of the antiquities, but more particularly of those relating to architecture."

Geymüller believes that the passages in Vasari which have generally been read as meaning that Peruzzi designed the villa meant only that Peruzzi did the paintings, or some of the paintings, there. But I must confess I cannot see how Vasari's words can be twisted in any way so as to convey that sense. If he had wished to state that the work which Peruzzi did was of a similar nature to that of Raphael and Sebastiano del Piombo he would have described it in a similar way. In the life of Raphael, he says:

> "The master had produced a fresco of the most exquisite beauty in a loggia of his (Agostino Chigi's) palace in the Trastevere, now called the Chisi"; and in the life of Sebastiano del Piombo he says Sebastiano, "having arrived in Rome accordingly, Agostino set him instantly to work, and the first thing which he did was to paint the small arches above the loggia, which looks into the garden of Agostino's palace in the Trastevere, where the whole of the vaulting had been decorated by Baldassare of Siena."

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* V. Monaldini, *Le Vite de' più celebri Architetti d'ogni Nazione e d'ogni Tempo, preceduto da un Saggio sopra l'architettura.* Rome, 1768.

† H. de Geymüller, *Raffaello Sanzio studiato come Architetto.* Milan, 1884.

Now note how differently he describes Peruzzi's work :

> "But still higher was the glory which he obtained for the model of a palace prepared for Agostino Chigi, and which he executed in the graceful manner we now see. This edifice should rather be described as a thing born than as one merely built; the exterior decorations are in terretta, and exhibit very beautiful historical representations executed by Baldassare with his own hand."

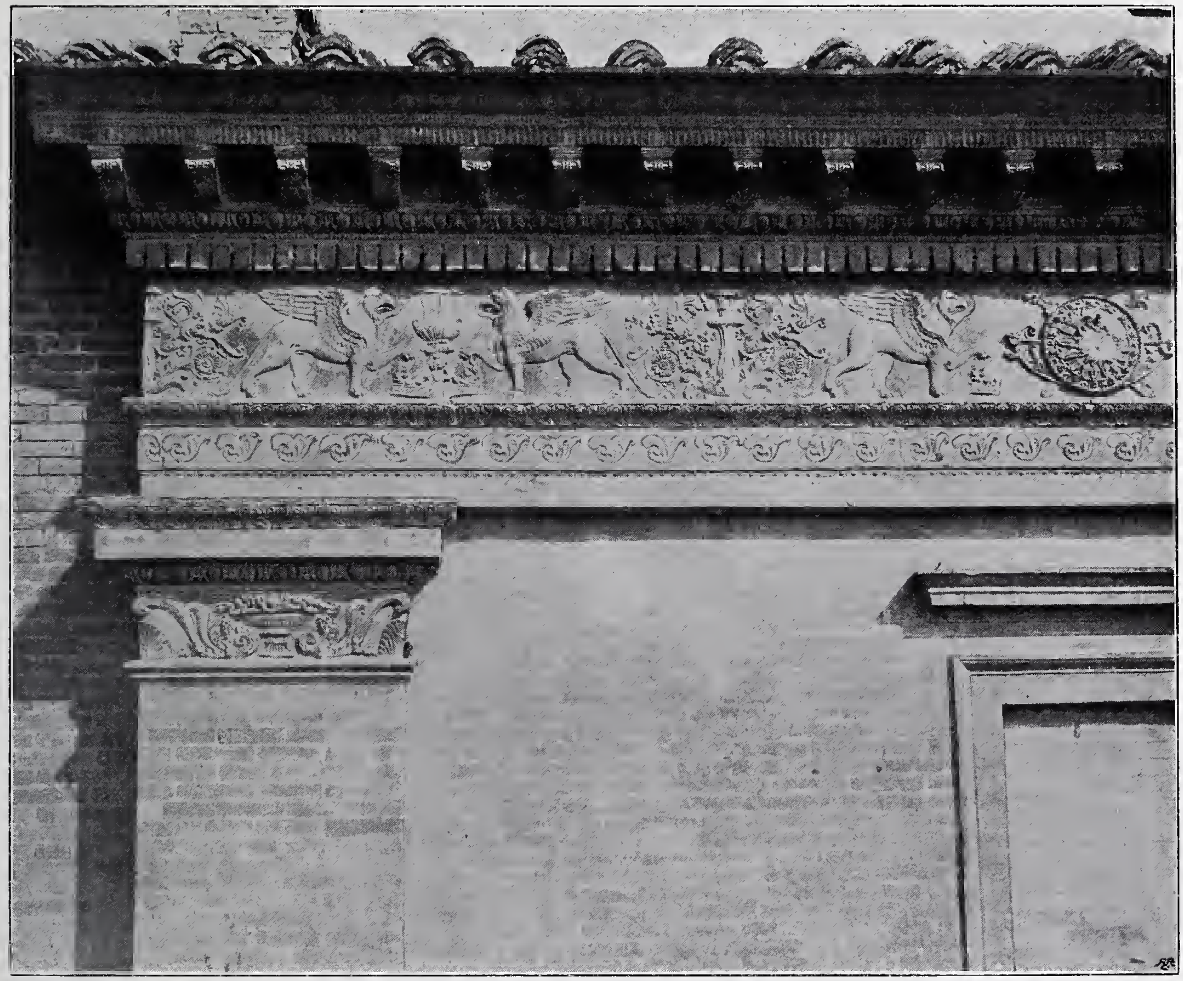

FIG. 3.—PALAZZO TURCHI, NEAR SIENA. (B. PERUZZI, ARCHITECT.) *Photo. Lombardi.*

I do not see how anything could be more definite than that, and note particularly the words " executed by Baldassare with his own hand," which were clearly meant to convey that for this building Peruzzi was to be looked upon chiefly as the architect, and that it was somewhat extraordinary that the architect should also paint the decorations.

2. Geymüller also concludes that Peruzzi did no architectural work of importance before the death of Raphael, which occurred in 1520, because Vasari does not mention any, excepting a portal for Francesco da Norcia, and one or two other designs which were not executed, *before* he speaks of the work Peruzzi did at St. Peter's after Raphael's death. But

Matas * states that Peruzzi studied architecture under Francesco di Giorgio at Volterra before he was twenty years old. The sequence in which Vasari gives Peruzzi's works cannot be taken as the chronology in which they were carried out, for after describing those in Rome he passes on to the organ which Peruzzi designed for the church of the Carmine at Siena, and the bier which he painted for the brotherhood of S. Caterina in the same town; then, after speaking of Peruzzi's visit to Bologna, which was in 1522, he goes on to the design and model which he prepared for the Duomo of Carpi, which are known to have been sent from Rome seven years earlier—viz. in 1515.† Therefore, Geymüller's argument that Peruzzi did no architectural work of importance before the death of Raphael, because Vasari happens only to have spoken of his paintings before that event, cannot be sustained.

3. A third reason Geymüller gives is that Serlio only mentions the Farnesina once, when he says that Peruzzi, "wishing to ornament a saloon of Agostino Ghisi, decorated it with some columns," &c. But Serlio only cites this room as an illustration of the subject which he was then treating, and nowhere attempts to give a list of Peruzzi's architectural works.

4. And as a final and concluding argument Geymüller reproduces a sketch plan made by Peruzzi of the room of which Serlio speaks, which he says must have been sketched and measured from the actual building, and that it would have been unnecessary for Peruzzi to have made this if he had been the architect, because he would have had the working drawings to refer to, and that he would not have written on it "Sala di Messer Augustino Chigij," because he would not have been likely to forget what the drawing was if he had been the architect of the building.

But I am sure that you, as practical architects, will agree with me that it is a common thing, when one wishes to panel or decorate a room, to take the exact measurements from the work itself, which may in the course of erection have been varied somewhat from the plans.

The Farnesina was commenced in 1509 and finished in or before 1511. In plan it is a simple oblong, with two projecting wings with a loggia between, facing the garden. Externally it has a Doric order to the ground and first floors, and the windows are also similarly treated in each story, which Monaldini considers "troppo secchi." The whole is crowned with a rich frieze pierced with windows and a small cornice. This motive of putting windows in the frieze was a favourite one with Peruzzi, and is to be seen in many other of his buildings in Siena and at Bologna, and was copied by Sansovino in the library of St. Mark at Venice. The monotony Monaldini complains of in the architectural details of the Farnesina no doubt resulted from the exquisite taste Peruzzi always displayed when he wished to combine painting with architecture, when he was careful that the structural work should not interfere with the more delicate lines of his brushwork.

In 1512 he designed a Casino in the Vatican for Pope Julius II.,‡ and completed the Vigne di Papa Giulio outside the Porta del Popolo which had been commenced by Sansovino.§ Very beautiful drawings are given by Le Tarouilly || of this Casino.

Peruzzi also designed the fine Cortile of the Palazzo d'Altemps.

The monument to Pope Adrian VI. in S. Maria dell' Anima is given as a work of Peruzzi by Vasari, who says that the sculpture was carried out by the Sienese Michelagnolo assisted by Peruzzi. This tomb was finished in 1529.

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* *Op. cit.*

† G. Campori, *Gli Artisti Italiani e Stranieri negli Stati Estensi.* Modena, 1855.

‡ Matas, *op. cit.*

§ This Casino must not be confused with the Villa di Papa Giulio designed by Vignole.

|| Le Tarouilly, *Edifices de Rome Moderne.* Paris, 1840–57.

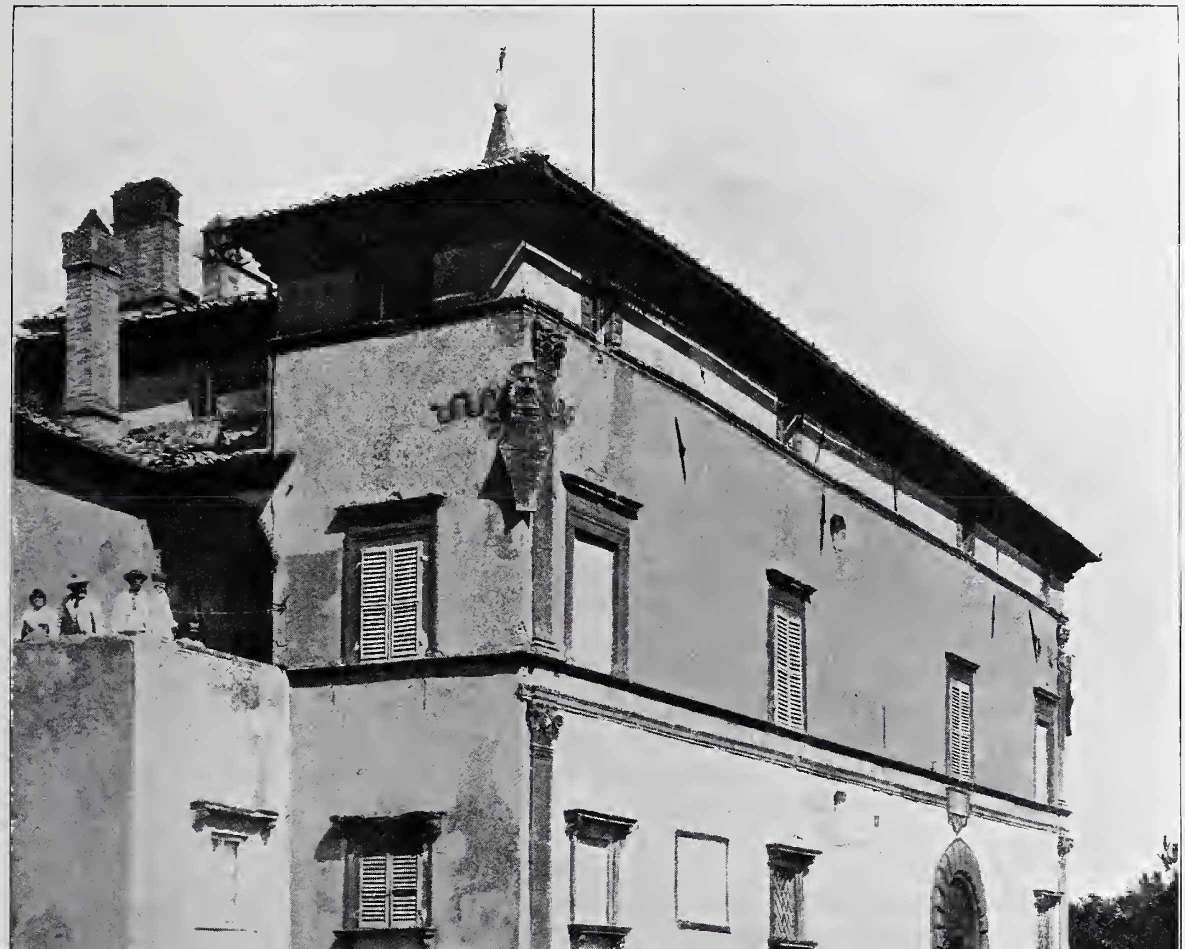

FIG. 4.—VILLA MIELI, NEAR SIENA. (B. PERUZZI, ARCHITECT.)

Photo. Lombardi.

The Palazzo Regis, called also the Piccola Farnesina or the Palazzo Linotte, is attributed by Le Tarouilly to Peruzzi, but of late it has generally been acknowledged to be a work of Antonio da San Gallo the younger.

Another work accredited to Peruzzi is the portico of S. Maria in Domnica, which, if somewhat tame, is still simple and dignified. This portico was said at one time to have been built by Michelangelo. The Palazzo Lante and the Palazzo Ossoli are undoubtedly works of Peruzzi. The former is a small palace with a court arcaded on three sides: the widths of the open corridor surrounding the court are different on all three sides, and the vaults are made elliptical to get over the difficulty. The façade has simple enrichments to the windows and a rather small cornice. The Palazzo Ossoli is a palace with a court arcaded on one side only; the façade has a rusticated lower story, with two orders, Doric and Ionic, over.

The Palazzo Costa, attributed to Peruzzi by Le Tarouilly, has a simple rusticated ground floor, with flat arches over the shops on each side of the entrance.

Peruzzi is said to have designed also the beautiful doors of S. Maria dell' Anima.

The Chigi Chapel in the Church of S. Maria del Popolo has generally been attributed to Peruzzi, as also the Church of S. Elogio.

Geymüller considers both these to be the work of Raphael, and he publishes a sketch of S. Elogio by Peruzzi's son, Salustio, on which is written "Opera di Raffaelo da Urbino," and also one by Aristotile da San Gallo, on which San Gallo has written "di Mo. baldassarre da Siena," and concludes that the church was designed by Raphael and finished by Peruzzi, who is only responsible for the lantern to the dome.

Among other works in Rome attributed to Peruzzi by Le Tarouilly which may be mentioned are, a house in the Piazza de' Satiri, which somewhat resembles the Palazzo Massimi, a house in the Via di Parioni, and a ceiling to a room in the Palazzo Cancellaria.

Owing to intrigue, the death of successive Popes, want of money, the sack of Rome, and other unfortunate circumstances, the products of many of Peruzzi's best years were thrown away. Vasari thus refers to Peruzzi's connection with St. Peter's:

> "He was also employed on many occasions by Pope Leo X., more particularly when that pontiff, desiring to bring the church of S. Pietro, which had been commenced by Julius II. after the design of Bramante, to a conclusion, and, finding the edifice too large, resolved to have a new model constructed. His Holiness was of opinion that the various parts of that vast fabric were not in harmony with each other; wherefore he committed the work to Baldassare, who prepared a new model, which is truly ingenious and of a very magnificent character. It gives proof of so much judgment, also, that succeeding architects have frequently availed themselves of many parts thereof."

Also:

> "The façade of the principal chapel, which had been commenced by Bramante, was completed by Baldassare, who constructed it of Peperino marble."

And again:

> "The fame of Baldassare was greater after his death than during his life. More particularly were his judgment and knowledge vainly desired when Pope Paul III. determined to cause the church of S. Pietro to be completed, seeing that all then discovered how useful his assistance would have been to Antonio da San Gallo. It is true that the last-named architect effected much in accomplishing what we now possess; but he would, nevertheless, as is believed, have seen his way more clearly through certain of the difficulties incidental to that work had he performed his labours in company with Baldassare."

Peruzzi was appointed architect to St. Peter's on 1st August 1520—less than five months after the death of Raphael—and held the post until 6th May 1527, and from 1530 to 1531, and again from May 1535 to 6th January 1537, the day of his death.

I do not intend to enter into the controversy as to what was Peruzzi's share in the various designs and plans made for St. Peter's, or as to what he actually built; but he played a very important part, not only in what was actually erected, but in the various proposals which were committed to paper.

The words of Vasari which I have just quoted have generally been accepted, and they are confirmed by Serlio,* who says:

> "In the time of Julius there lived in Rome Baldassar Petrucci, Sienese, who was not only a great painter, but very learned in architecture, and who, following the precepts of Bramante, made a model in the manner here shown below. . . . The four piers in the centre have four arches, which carry the dome. The four arches have lately been built; the height of them is 220 palms. Above these arches will be a drum, much ornamented with columns, with its dome over. This Bramante planned before he died, the plan of which is here in the following page." †

It seems impertinent of me to doubt the arguments of Geymüller, who has spent years in the study of St. Peter's and the large number of drawings existing in the Uffizi at Florence, the result of which labours are to be seen in his sumptuous work, *Les Projets primitifs pour la Basilique de Saint Pierre de Rome*, published in Paris and Vienna in 1875; but he states that the plan published by Serlio is really Bramante's, that the plan or model mentioned by Vasari was only a combination of Bramante's nave with the choir of Rossellino, and that most of the drawings in the Uffizi which have been attributed to Peruzzi, one or two of which are signed with his name, were made by Peruzzi *for* Bramante while he was the latter's draughtsman. That Peruzzi was Bramante's assistant is not recorded by Vasari—who knew both, and who published his book of lives in 1550, only thirteen years after Peruzzi's death—or by Serlio, who was the latter's pupil.

Geymüller also says that it was not Peruzzi who succeeded Raphael as chief architect of St. Peter's, but Antonio da San Gallo the younger, who was placed over him, although in an earlier pamphlet ‡ he concurs in the dates already stated of the years in which Peruzzi was chief architect, and where he says that Antonio da San Gallo was architect after Peruzzi's death—viz. from 1537 to 1546—and ignores the codex in the Biblioteca Nazionale at Florence, which was published by Aurelio Gotti in his *Vita di Michelangelo* in the same year as Geymüller's *Projets*, and in which San Gallo himself says that he succeeded Peruzzi as architect-in-chief of St. Peter's.

Vasari, as you have heard, clearly infers that San Gallo succeeded Peruzzi, and Vasari was well acquainted with the work of St. Peter's, for in his fresco in the Sala dei Cento Giorni in the Palazzo Cancelleria he shows the church in course of construction as it was in 1546, with the choir of Peperino marble built up as high as the triglyphs of the Doric order. There is also an engraving of Peruzzi's choir by H. Cook, printed in 1550, in the Palazzo Barberini.

That Peruzzi was greatly influenced by Bramante and was a sincere admirer of his work, on which he founded his own style, is undoubted; but I can see no reason why it should be supposed that the many plans and perspective sketches by him were made *for* Bramante, and were not the expression of his own ideas.

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* *Op. cit.*

† Peruzzi's plan thus described by Serlio is illustrated in Prof. Aitchison's most interesting lectures on St. Peter's, published in the present and preeeding volume of the Journal R.I.B.A.

‡ H. de Geymüller, *Notizie sopra i Progetti per la Fabbrica di S. Pietro in Roma.* Rome, 1868.

Siena.—The chief work of Peruzzi in Siena was the rebuilding and strengthening of many parts of the walls surrounding the city. He was "Architetto del Pubblico" from 1527 to 1529, at a salary of five crowns a month, and was again appointed in 1531. During the first period, 1527–9, he built seven towers or gateways, four of which—the Porta Laterina, the Porta Pispini, the Porta S. Prospero, and the Porta Camollia—still remain. The walls and bastions are built of brick, with a battering base surmounted by a great torus moulding; at the top of the wall is another torus moulding, a plain frieze, and a rich brick cornice.

His most interesting work is the Palazzo Pollini, or Celsi, which is very similarly treated to the walls of the city, having a battering basement and large torus mouldings, the lower one of which is continued on beyond the palace in the high wall of the raised garden, above which is seen a great loggia, or annex, of several stories in height. This little palace is one of the most refined and dignified in Italy.

The Palazzo Turchi [fig. 3, page 171], outside the Porta Camollia, was built about the same time as the fortifications and the Palazzo Pollini, for in the cornice, which is of terra-cotta, Peruzzi has not only used the same enrichments, but has employed the same moulds for the casting. The details of the frieze, architrave, and cornice are almost Greek in their refinement.

Not far from the Palazzo Turchi is a small chapel attributed to Peruzzi. It is a very simple building, with an open portico of three arches, with one bay at each end on the return sides. The arches are separated by pilasters of slight projection and without entasis. The design shows Peruzzi's mastery of materials, for it is built of brick; but for all parts which would be difficult to mould in clay, such as the caps to the pilasters and the angles of the pediment where it joins the main cornice, he has used stone.

The Fonti di Pescaia is believed by the Sienese to be by Peruzzi; and here again one sees how cleverly he could use brick. For the church of the Carmine he designed and built the cloister and campanile, which are also in brick, with stone sparingly used. He designed, also, the organ-case in S. Maria della Scala, spoken of by Vasari—who, however, makes the mistake of stating that it was for the church of the Carmine.

The high altar in the cathedral, a simple design in coloured marbles, and the main doors are given by Milanesi as works of Peruzzi. Milanesi [*] publishes a bull from Cardinal Spinola giving Peruzzi permission to remove certain marbles from Rome for this altar. Matas [†] states that the very beautiful staircase to the pulpit in Siena Cathedral, which was carved by Bernardino di Giacomo in 1543, was designed by Peruzzi, who was *capo-maestro* of the cathedral for some time.

Milanesi [‡] thinks it probable that Peruzzi designed the marble seat in the Loggia della Mercanzia, or Casino di Nobili, which was carved by Marrina.

The Villa Mieli, near Siena [fig. 4, page 173], probably one of Peruzzi's earlier works, is a picturesque house with stone pilasters at the angles, a stone base and enrichments to the windows and doorway, and stuccoed walls.

The Villa Belcaro, some three or four miles from Siena, was built on the site of an old house for the Turamini family. It is magnificently placed on the top of a hill surrounded by pine woods, and the house is again enclosed within a high wall encircled by cedars. This wall has a walk on the top, like the old city walls of York and Chester, and forms courtyards around the house. From the main inner court, which has buildings on two sides, one passes into a garden court, which is separated from the principal one by a screen wall, which has two gateways, with a fountain between. At the far end of the garden is a loggia, or summer-house, with a vaulted ceiling painted by Peruzzi, of which I shall speak again later. A plan of the villa is among Peruzzi's drawings in the Uffizi.

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[*] G. Milanesi, *Documenti per la Storia dell' Arte Senese.* Siena, 1854.

[†] *Op. cit.*

[‡] *Op. cit.*

The villa of S. Columba, also attributed to Peruzzi by the Sienese, is some six or eight miles from Siena, and further north than the Villa Belcaro; but, although it is strikingly clever in plan and general arrangement, I do not think it is by him. He also designed the Villa Celsa, four miles beyond the Villa S. Columba. On the way to this villa is a small country church with a brick tower not unlike that of the Carmine, which, I feel sure, is a work of Peruzzi.

He designed, also, in Siena the Palazzo Francesconi or Mocenni, the cloister of S. Martino, the church of S. Giuseppe and the church of the Servi, a doorway to S. Spirito, and the cortile of the house of S. Catherine, and restored the Ponte all' Orcia at Vignoni. Peruzzi describes his plan for the latter in a letter to the Signoria of Siena dated 23rd November 1528. He is also supposed to have been consulted, and probably carried out works, for the fortifications of the neighbouring towns of Chiusi, Turrita, and Chianciano.

Many of Peruzzi's designs for the church of S. Domenico in Siena are preserved in the Uffizi.

Carpi.—Vasari says that Peruzzi prepared "the design and model for the cathedral of Carpi, which was exceedingly beautiful. The structure was built under the direction of Baldassare and according to the rules laid down by Vitruvius. In the same city our artist commenced the church of S. Niccolò; but this building was not completed at this time, the master having been almost compelled to return to Siena, whither he was summoned to prepare designs for the fortifications of the city; and those defences were then constructed under his direction."

The Duomo of Carpi was built for Alberto Pio, who, in a letter dated 9th May 1515, informs his agent that he is sending the model from Rome. There are no contemporary documents proving that the Duomo was designed by Peruzzi; but from the style of the building, and the fact that Peruzzi was in Rome when Pio wrote his letter, and that several writers name Peruzzi as the architect some few years later, the weight of evidence is in Peruzzi's favour. The model was still preserved in the cathedral in 1604, when Spaccini visited Carpi and wrote, "I went to the cathedral of Carpi to see the model of that church designed by Baldassare of Siena." The church was only partly built, when Alberto Pio suspended the work so that his other church of S. Niccolò might be completed, and afterwards war prevented its being proceeded with, so that it remained unfinished until 1606. In that year the church was commenced again, but the original design was so mutilated and altered that only the general idea can now be said to have been Peruzzi's. Geymüller does not seem to take this fact into consideration when he says that the disposition of certain parts and details "show that we have before our eyes the work of a young artist, and not the work of a man who had reached the full maturity of his genius, as had Bramante." *

We have noted that Vasari says that Peruzzi "commenced" the church of S. Niccolò. This is not correct, for the church was built in two periods—1493–1508 and 1517–20. In 1493, Peruzzi, being only twelve years of age, could not have designed the church. It is not known who was the architect of the original building, but the design of the one commenced in 1517 and finished in 1520 was undoubtedly made by Peruzzi; and Campori † says that "the authorities have recognised in this noble and magnificent church the pure and graceful style of Baldassare Peruzzi." ‡ And yet this church was built only two years later than the design for the Duomo, which Geymüller criticises as being by a young and inexperienced architect.

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* Geymüller's *Projets.*

† *Op. cit.*

‡ "Che gl' intendenti ravvisano in questo nobilissimo e magnifico tempio lo stile puro ed elegante di Baldassar Peruzzi."

In addition to the designs for the cathedral and for S. Niccolò, Alberto Pio also sent from Rome drawings or models for the Oratorio della Rotunda and the Oratorio della Sagra in Carpi. According to documents, those for the former were sent in 1511 and those for the latter in 1515. The Oratorio della Rotunda was built on an octagonal plan resembling in small dimensions the Pantheon in Rome. It was taken down in the seventeenth century. These two buildings are not mentioned by Vasari.

Bologna.—As I said before, Peruzzi was invited to Bologna that he might take part in the competition for the completion of S. Petronio. Many of Peruzzi's designs, with those of Vignole and others, are still preserved in the sacristy.* One shows a very fine dome.

While in Bologna he designed the Albergati and Fioresi Palaces. Only one-half of the Albergati Palace was built, but it is, I consider, Peruzzi's finest work, and if completed would have been one of the most magnificent palaces in the world.

The beautiful doorway to S. Michele in Bosco was designed by Peruzzi at this time. It shows the influence of his Greek studies perhaps more than any other of his works.

Ferrara.—In Ferrara he designed, according to Lanzi,† the doorway of the Sacrati Palace, an impressive and imposing entrance, but not showing the refinement generally seen in Peruzzi's work.

Vallepiatta.—The church of S. Sebastiano is mentioned by Matas,‡ who says it is supposed to be Peruzzi's first architectural work.

Viterbo.—The Panteone di Pontremoli in Viterbo is attributed to Peruzzi.

Bibbiano.—Peruzzi is supposed to have designed a villa near Bibbiano for Cardinal Petrucci.

Caprarola.—It has been proved that the Rocca di Caprarola, which Vasari assigns to Antonio da San Gallo the younger, was designed by Peruzzi. Vignole is supposed to have taken his pentagonal idea for his famous villa here from a plan which Peruzzi had previously made for the same villa.

PERUZZI AS PAINTER.

As we have seen from the short account of some of Peruzzi's buildings, he was a very accomplished architect. As a painter he was classed with the best of his day; and perhaps Michelangelo only excelled so equally in architecture and painting.

Most of Peruzzi's paintings were executed as fixed decorations, and very few of his easel pictures exist—which, perhaps, accounts for his works not being so generally known as they deserve.

The chapel in Volterra near the Florentine gate, which Peruzzi painted, and which Vasari says was his first work, no longer exists.

His other early paintings in the chapel of S. Giovanni in Siena Cathedral, where he worked as an assistant of Pinturicchio, have also disappeared.

There is no doubt, from the fact that Peruzzi was Pinturicchio's assistant at the age of twenty, and from the influence of the latter to be seen in all Peruzzi's paintings, that Pinturicchio was his first master. Later he owed much to Sodoma, whose acquaintance he made in Siena, and whom he met again in Rome, and to Raphael.

One of his first works in Rome was the painting in fresco of the choir of S. Onofrio. One of the paintings represents the Madonna and Child and various saints, a picture particularly

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* A list of these is given by H. L. Florence, R.I.B.A. Transactions 1870–1.

† L. Lanzi, *Storia pittorica dell' Italia dal Risorgimento.* Bassano, 1795.

‡ *Op. cit.*

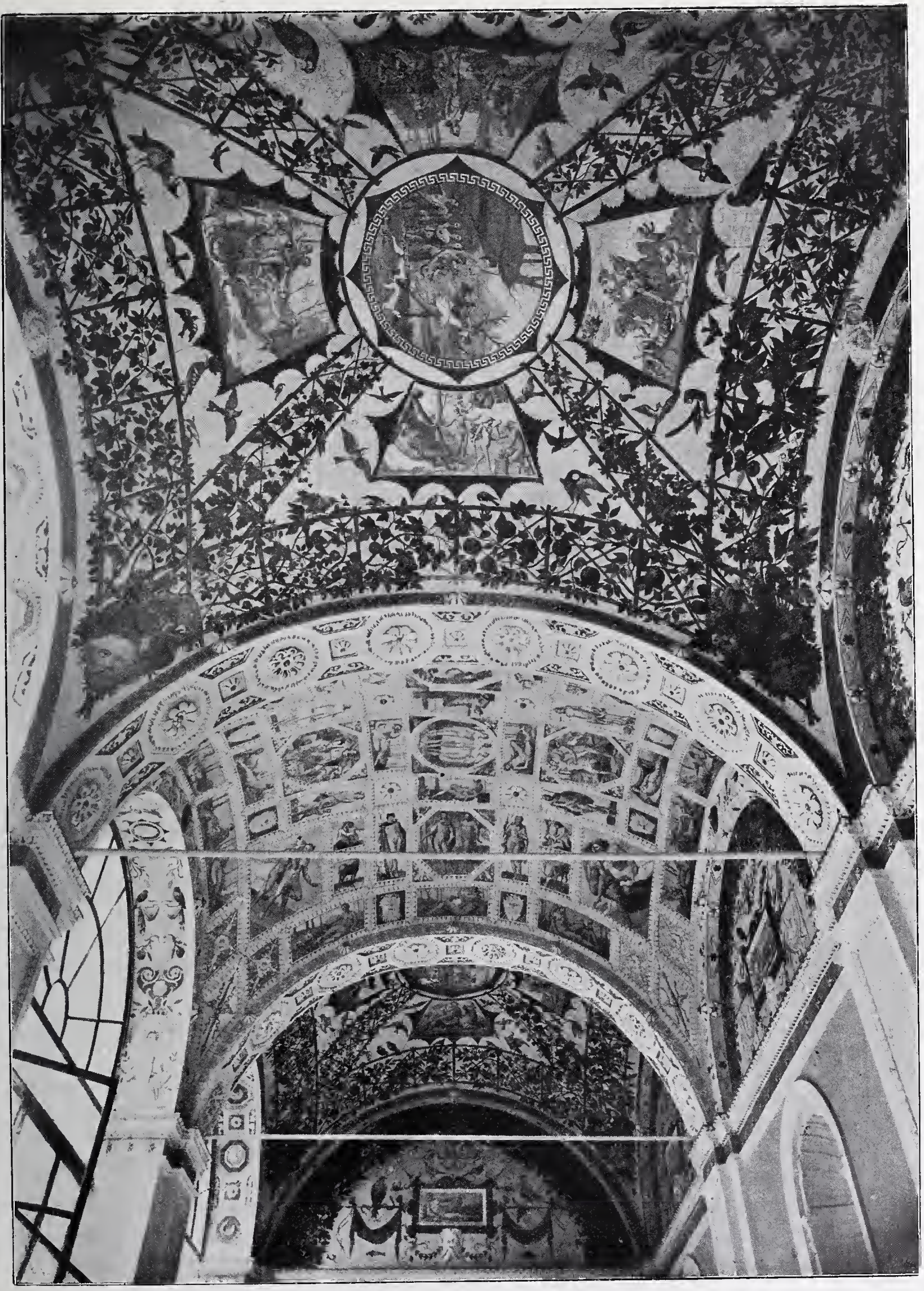

FIG. 5.—CEILING OF THE LOGGIA, VILLA BELCARO, NEAR SIENA. (B. PERUZZI, PAINTER.) *Photo. Lombardi.*

reminiscent of Raphael; others, the Adoration of the Magi, and the Flight into Egypt. The semi-dome of the apse in this church is a very beautiful piece of decorative work.

A fresco representing the Three Graces was discovered in the Palazzo Chigi, which was no doubt inspired by the antique group preserved in the *opera* of Siena Cathedral. Frizzoni thinks that this fragment was brought by one of the Chigi from Ostia, where it had formed part of the paintings executed in the tower of the fortress described by Vasari, in which he was helped by Cesare di Milano, who was probably Cesare da Sesto, a pupil of Leonardo da Vinci.

Of the two chapels in the church of S. Rocca-a-Ripa, which I spoke of before, one is destroyed, and the paintings in the other have been so much restored that little of Peruzzi's work remains.

The paintings on the ceiling of the Camera d'Eliodoro in the Vatican are attributed by Cavalcaselle to Peruzzi, excepting one portion which was finished by one of Raphael's pupils.

There are some historical paintings in the Palazzo dei Conservatori, in Campodoglio, which Frizzoni says are undoubted works of Peruzzi, although they have been ascribed to Buonfigli and Botticelli. It is curious that Vasari does not mention these, especially as he devotes some space to a description of the scenic painting which Peruzzi made when the bâton of the Holy Church was give to Giuliano de' Medici, and which formed part of the decorations "che fece il popolo romano in Campodoglio." He also painted scenes for the theatre on the same occasion.

In the Vatican he painted a corridor for Pope Julius II. with subjects representing the months and seasons of the year. This work no longer exists.

In the crypt of S. Croce in Gerusalemme Peruzzi designed, as I stated before, a very beautiful vaulted ceiling, which was executed in mosaic. It belongs to the period 1503–1509. The figures and decorations are on a gold ground. In the centre is a figure of our Saviour, and in four ovals at the sides are the Evangelists, and above are pictures of the legend of the making of the cross, four saints, and a kneeling figure of Cardinal Carvajal, the donor.

In the Farnesina, Peruzzi painted the ceiling of the loggia, in addition to the histories in terretta, which were on the external walls. The lunettes to this ceiling were painted by Fra Sebastiano del Piombo. One of them is very different from the rest: it is painted with a gigantic head, which according to common tradition was drawn by Michelangelo when one day he visited Sebastiano del Piombo, but Frizzoni disputes this, and gives Peruzzi as the author. The two central compositions in this ceiling represent the myths of Perseus and Medusa, and Diana. Some of these paintings are in imitation of stucco work in relief, and in describing them, Vasari says:

> "I remember the Cavalier Tizian, a most excellent and renowned painter, whom I conducted to see these works, could by no means be persuaded that they were painted, and remained in astonishment when on changing his point of view he perceived that they were so."

Peruzzi also painted in the Farnesina a frieze in one of the ground-floor rooms with scenes from classical mythology.

Some of his most celebrated paintings are those in S. Maria della Pace: one represents the Madonna and Child, with the kneeling figure of Ferrando Ponzetti, and another the Presentation at the Temple. These were painted in 1515 or 1516, and are strongly influenced by Sodoma and Raphael.

In the Borghese Gallery is a painting of a Venus by Peruzzi, but which has until lately been attributed to Giulio Romano.

Siena.—The paintings in the Villa Belcaro, which belong to Peruzzi's later years, are among his best, and show great decorative power. In the loggia in the garden, he has painted a ceiling [fig. 5, page 179] with subjects from the classics in the manner of which he and Giovanni da Udine were the great exponents. The figure subjects are in small compartments and are surrounded by a pergola of leaves, flowers, fruits, and birds. In the villa itself there is a very beautiful Judgment of Paris on the ceiling of the hall [*see headpiece*, p. 165], and in the chapel he painted the walls in chiaroscuro with the four Evangelists and the martyrdom of some saints, and in the centre of the choir the Madonna and Child. In the entrance to the chapel are the arms of the Turamini family, a half-moon and star surrounded by cherubs. These paintings are dated 1535, and are the last he did in Siena, as he returned to Rome in March of the same year, and never went back to his native city.

In the Palazzo Pollini, which I have before spoken of, he painted three ceilings—one a subject from Roman history, another the Adoration of the Magi, and the third the History of Susannah and the Stoning of the Elders. There is a very beautiful ornamental plaster ceiling with painted panels in the Pal. Piccolomini or Nerucci by Peruzzi. One of his most celebrated and best known pictures is that in the church of the Fonte Giusta, the Sibyl announcing the advent of Christ to Octavius Augustus. The figure of the Sibyl is a very beautiful one, but the others are rather strained, and show, according to Frizzoni, the decadence of Peruzzi's declining years. An altar-piece of the Virgin and Child by Peruzzi exists in the parochial church of Bibbiano, near Siena. Near the arch of the "Due Porte" in Siena is a fresco of the Virgin, Child, and S. John, now in a very bad state of preservation. In the church of S. Ansano at Dofana, near Siena, is another Madonna and Child.

It is curious that neither Vasari, nor any other ancient writer, speaks of Peruzzi's designs for tapestry, for in the collection of Prince Sigmaringen there is a sketch of the Adoration of the Magi which was attributed to Raphael, but which is really by Peruzzi. The tapestry is now in the Vatican.

Bologna.—The chiaroscuro design now in the National Gallery, and which Vasari says was made for Count Battista Bentivogli in 1522, is another of his Adorations of the Magi, and is the same which Agostino Caracci engraved in 1579. Several copies of this design were made in oil, one of which is also in the National Gallery.

Madrid.—There are two pictures in the Prado Museum by Peruzzi, which were formerly ascribed to the ancient Umbrian school.

Florence.—In the Pitti Palace is a very beautiful Holy Family.

Lanzi mentions two other Holy Families, one of which belonged to the Cavaliere Cavaceppi in Rome, and the other to the Sergardi family in Siena.

That Peruzzi was a great architect I think you will all agree, and you have seen from the photographs I have shown you that he was a very excellent painter. He is said to have been the most elegant painter among the architects, and the most ingenious architect among the painters. He was unfortunate in that he was unable to carry out much of his work for St. Peter's, and that he happened to live at the same time as the three greatest geniuses of the Renaissance—Bramante, Raphael, and Michelangelo—whose influence permeated the whole of the then artistic world, and made it impossible for any other artist to achieve anything free from the charge that he owed the idea to one or the other; but although he learnt much from them, especially the two former, Bramante and Raphael, he still preserved more of his originality than his other contemporaries, and infused a spirit of refinement into his detail which has never been surpassed.

What modern architecture owes to Peruzzi, and what *we* owe to him, it is impossible to estimate; but I feel sure that no architect, excepting perhaps Brunelleschi and Bramante, did more in the development of the application of Roman architecture to modern times.

As a painter he excelled particularly in light and fanciful decorations such as are to be seen in many of his ceilings, and the mere fact that many of his larger and more important works have been taken to be by Pinturicchio and Botticelli is sufficient proof that they were of a very high order of merit.

In conclusion I repeat Vasari's words, "The fame of Baldassare was greater after his death than during his life," and I believe that in time to come, when the same careful searching has been made into the authorship of the architectural works of the Renaissance as has been done for those of painting, Peruzzi will hold a still higher place on the roll of the great artists.

DISCUSSION OF MR. BEDFORD'S PAPER.

The President, Mr. William Emerson, in the Chair.

Sir HENRY HOWORTH, K.C.I.E., F.S.A., said that Mr. Bedford's Paper had been most admirable in every way, most clear and simple, and covering a great extent of ground. The illustrations also were extremely interesting, and it was hard to know exactly what to say except in praise of the Paper. If he might be allowed to draw a lesson from it, it was that in the first place the history of architecture had been too much an impersonal history. We have had the history of buildings, rather than the history of the men with the buildings grouped about them which they designed. It would be a grand thing if some man in the future would take a new departure and give us a more personal history of architecture, especially in the Renaissance time, when we know so much about the personal history of the architects. In the second place it had often struck him as a very curious thing how little Rome, until the year 1500, had to do with the arts in Italy at all. The fact of the matter was that Rome had been a huge howling waste of ruins and desolation. It had been deserted by the Popes, who had migrated to the South of France, and who left some magnificent remains there. There were hardly any buildings of importance at all erected at Rome between the ninth century and the close of the fifteenth; and what building and what artistic work was done in Italy was done in the chief cities, where the merchants were making great fortunes, where Mæcenas lived, and where he spent his money with taste and with knowledge. He did not as modern Mæcenases do, when they insist upon their own vulgar taste being imposed upon the artist. He made the artist the judge of his own art, and left him to design pretty much as he thought best and grandest. It was at Venice and Florence and Siena and Milan and Ferrara — especially Ferrara, where the great dukes lived—where Lucretia Borgia married the great Duke. That little town was, in his view, probably the greatest centre of light of all the little towns of Italy at that period. What is clear is, however, that that centre was not Rome. It was rather an accidental thing that when the Popes came back from Avignon they came back rich, enterprising, and extraordinarily full of vigour; and Alexander VI., Julius II., Leo X., and Clement VII.—the last a great French Pope, the French Medici—spent their money lavishly, and had the good sense to patronise the real men of genius who poured into Rome from Florence and Siena and the North. The architecture of the period to be seen there was the personal work of these men, but it belonged to the great school which had lived at Florence a long time before, and of which Bramante was undoubtedly the head and chief. How versatile were these men! There was hardly one of them who was not a great painter as well as a great architect. The knowledge that Bramante was a painter had been almost revived in our day. Pictures were turning up by him here, there, and everywhere, showing that he was a most extraordinary genius as a painter as well as an architect. They had seen what this particular genius Peruzzi was in both arts. What a thing it was to think that he died in poverty and misery; that like Rembrandt and many others he died virtually in a garret! It seemed to give point to an aphorism once uttered by a great friend of his (the speaker's), a barrister who was very poverty-stricken, when he said, *à propos* of these tragedies, that he was quite sure that God Almighty showed His utter contempt for money by the people to whom He had entrusted it! Whether that be a consolation or not, it must have been an encouragement to many a poor fellow who had had few chances, but who had great artistic fire in his soul, to think that perhaps there might be in the future a revival of the days which would put him on a pedestal such as Peruzzi now occupied—this great companion and artistic schoolfellow, for such he was, of Raphael, with whom he worked, and who were great friends. And although Peruzzi may have been rather under the shadow of bigger men, we have been able to revive him in a wonderful way by the skill of the reader of the Paper that evening.—Sir Henry Howorth went on to speak of Peruzzi's talents as a painter, and drew attention to a remarkably fine example lent by Sir Henry himself for the meeting, which had been attributed to Peruzzi by competent judges.* In offering again the warmest thanks of the meeting to Mr. Bedford, Sir Henry Howorth hoped that Mr. Bedford would write a monograph of Peruzzi; that he would illustrate it with as many illustrations as possible; and that he would thus begin a series of monographs of the great artists of the Middle Ages in which we should have the buildings grouped much more scientifically than they were by Fergusson and others, who had simply written a history of the buildings themselves, apart altogether from the men who designed them. If all the buildings were grouped together under their different authors, they would be found to illustrate each other in a way which it was impossible to do by merely putting them into a series in which they were supposed to tell their own story.

Professor BERESFORD PITE [*F.*] said that in seconding the vote of thanks so eloquently and pleasantly proposed by Sir Henry Howorth, he very cordially endorsed Sir Henry's suggestion as to the importance of architects studying the personal element in the works of the great men of the Renaissance. That personal element had been absent from our knowledge of the preceding architecture of the Middle Ages; the work of the Guilds he supposed was mainly responsible for our loss of this individual knowledge, which became so interesting at the later period. As we review the work of the greater men of the Renaissance, the sense of their mastery, their extraordinary individuality, is almost overwhelming. We think of Brunelleschi; we think of Alberti; we think of the great men who preceded Bramante, who, himself a giant, was to be succeeded by the greater giant Raphael. In this catalogue of the architects of St. Peter's we seem to pass almost to a superlative of individual forces when we come to consider the character and work of the great Michelangelo, who completed the work begun by Rossellino, Bramante, and Raphael, and continued by Peruzzi and San Gallo, until he, the contemporary of all but the first, completed it. What Mr. Bedford had said incidentally of Peruzzi was equally true of many of those other men. We see Peruzzi's extraordinary facility in painting—something more than facility, because there is the evidence of great genius, power, and beauty in his work, which, if he had confined himself to painting, would have made him a name very closely allied to the position of Raphael's. We have many other illustrations of an architect's work in engineering and in fortification. Michelangelo was a case very much in point, as he designed the fortifications of Florence which Peruzzi was employed to reduce or attempt to reduce. All these facts are interesting sidelights on the character of these men. But there was something that came yet a little nearer home to us—viz. that in Peruzzi's handiwork, in his architectural work, in the *motifs* of his plan and design, we see very striking individuality which is not quite so evident in the work of his contemporaries. We see in Peruzzi's work the progression from mediæval habits of design to a new method. We know that the great architects who succeeded him were estimated as being successful in so far as they conformed to antiquarian facts—facts that were then being dug out of the soil of Rome with the pickaxe and spade. This led him (the speaker) to ask Mr. Bedford what were the Greek studies to which he referred as conducted by Peruzzi. It would be interesting to have that reference, as he (Professor Pite) was under the impression that the men of that period only knew what we call Roman architecture. Peruzzi drew from the same fountain and from the same source, and was estimated by the same standard—that he was correct as our immediate predecessors were correct, the men of the era of Scott and Street, only in so far as he and they conformed to the then accepted type; and let us hope that, like his, their work will be as interesting and as fresh to succeeding generations as his is to us. None of us can trace in Peruzzi's work that dead and dry archæology, that antiquarian form of art which, we fear, has kept our Gothic revival hide-bound for a long generation. In Peruzzi's plans there is evident mastery. The ingenuity of the plan of the Massimi Palaces for the two brothers, in which great effects are obtained in little spaces, the way in which the Palace is planned at the awkward angle of a narrow street, and how the small cortile is made to yield large results—are all indications of a type of mind which is definitely architectural and exceedingly interesting. The same man undertakes larger problems; he tackles the greatest architectural problem of Anno Domini—the problem of St. Peter's at Rome. He (the speaker) was sorry Mr. Bedford had felt himself precluded from entering into that most interesting subject owing to Professor Aitchison's lectures. But Peruzzi's plan of St. Peter's was the first of the plans, if he might venture to say so, which showed any complete solidification of parts. Bramante's and the earlier schemes were all bent on rearing a dome, covering it with orders, and supporting it as best they could and knew; but Peruzzi pulled the plan together and evolved a fine squareness and largeness of form which afterwards became embodied in Michelangelo's scheme, and Michelangelo evidently appreciated and benefited by it. We must not forget that although we see practically nothing of Peruzzi's work in existence, the fine squareness which underlies the grouping of St. Peter's was really first revealed to the world by Peruzzi's design. Then, taking up the elevations of his palaces, how different they are from the more common ones of the time! The common palace was a great wall with an enormous cornice and windows arranged about it. Peruzzi not only employed the same cornice, but treated the angles and the base with the cornice, and composed a delightful front. That inner sense of harmony which we have in all his fronts was due to the dignity which he supplied by the use of a great basement, supporting ornament of rare refinement and delicacy, which did not interfere with the great mass of the wall; and crowned with a great feature, which in itself was exceedingly refined and beautiful in its detail. The meeting was very much indebted to Mr. Bedford for bringing them the large photographs, because they revealed a beauty in drawing and delicacy in modelling of the highest value in the total effect of the buildings. Peruzzi evidently delighted in the greatness of his subjects. The way in which he spread his palaces out, the way in which he piled them one upon another, was indicated in the background of his pictures. In "The Presentation in the Temple" there was a most delightful tower composed of a piling of orders one on top of another. In one of the photographs shown—that of the Villa of St. Columba—Mr. Bedford pointed out how the upper part was rather too coarse for Peruzzi's work. But there was a fineness of scale in the piling up of orders one upon another, and the treatment of the angles of the buildings in an entirely different manner, which were very characteristic. The man's mind moved in a large ordered squareness. There was a real sense of breadth and dignity in his proportions and in his line which was of great value, because in every case it seemed to be wholly of set purpose. He wanted to be great—his subjects did not make him great; he made them great. We have his feeling in his plans and elevations, coupled with fineness of detail and moulding, the qualities which make great architecture, and so far as Peruzzi's opportunities afforded he rose to them without exception. What Sir Henry Howorth said about the condition of Rome in the Middle Ages was a subject of vast interest. In many ways the great cities of the world repeated themselves. London was now to a Scotchman and foreigners what Rome was to the Florentines and Sienese in the Middle Ages! Owing to some unfortunate cause they all flocked to it. He was afraid the fact that Mæcenas dwelt in Rome had something to do with it, and he was supposed to dwell in London by the barbarians of the North now, and so they flocked to the South. In Rome there was everything that was beautiful if one would only look for it, and he was hoping that the day would come when we should recognise that London was to England and the English what Rome was to the Italians.

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* Sir Henry Howorth also very kindly lent for the occasion two charming little paintings by Janet the Elder, representing equestrian figures, contemporaries of Peruzzi.

Colonel LENOX PRENDERGAST [*H.A.*] said that he agreed with almost everything that had fallen from the last speaker. Mr. Bedford's very interesting Paper had brought forward several controversial matters, which for the most part he did not intend to discuss. His friend Baron von Geymüller had entered into a controversy, and he (the speaker) had no desire in the world to cross swords with him. But he would allude to the lovely villa in Rome that everybody knew, called the Farnesina. This had always been believed to be the work of Baldassare Peruzzi; but now they wanted to take it away from him. A great authority of the last century, Aldrich, the then Dean of Christ Church, from whose works in our youth we learned logic at Oxford, unhesitatingly ascribed the villa to Baldassare Peruzzi. Alla Lungara was the name by which it was known then, and he did not wish that they should deprive Baldassare Peruzzi of that great distinction. But the buildings we have to judge him by, speaking shortly, are the Palazzi Massimi. The Palazzi Massimi in Rome have a *cachet* about them that is very distinctive, and that leads one to realise what was behind the designer of that work. He was evidently a disciple of Alberti. They were both mathematicians of the first class, and every line of their work showed that to be the case, coupled with the extraordinary opportunity they both had of unearthing and measuring the ancient work of the Roman period. Those two things created a school in the very earliest period of the Renaissance which had produced a profound effect on the future of that style of work in Europe. It was Fergusson, he believed, who acknowledged that St. Peter's of Rome and all great churches of the kind were originally derived from the work of Alberti at Sant' Andrea in Mantua. The minds of these two men evidently ran in the same direction, and, say what people may, Baldassare had left his mark on the great Church of St. Peter of Rome, which could never be obliterated from it. As he (the speaker) had alluded to that, he was bound to say what was in his mind at the moment. It was of extreme importance that the rising generation of architects in this country should not be misled. Fifty years ago there was a tradition which led people to despise and almost to hate the style of architecture which is embodied in St. Peter's at Rome and in St. Paul's in London. He appealed to others, who would acknowledge that within our lifetime that was the state of things. He took up the Institute Journal only a few weeks ago, and to his astonishment and horror he found a distinguished writer evidently deriving his opinions about St. Peter's from these erroneous views of fifty years ago. It was of extreme importance that that erroneous estimate of the work in St. Peter's at Rome should be absolutely obliterated and got rid of. He for one felt very strongly about this, and was not prepared to allow that that estimate of so great a building should ever be held here now. It was of the highest importance that the rising architects of the day should be able to appreciate what all that work meant. There was a change of opinion in this country: there was no doubt that people were beginning to learn the value of these great Renaissance buildings, and that they must endeavour to realise the drift of opinion of those they had got to deal with—that it would not meet the modern estimates of architecture to take the criticisms of fifty years ago. The criticism that our younger men have to realise is the criticism, for instance, of such a distinguished and cultured man as John Richard Green, the author of *The History of the English People*, one of the most cultured men of our time—alas! no longer with us. He went to Rome, and notwithstanding this old and erroneous tradition that surrounded him, this is what he says about it: "How you would have smiled to see me in St. Peter's, and owning myself in the wrong. . . . I went prepared with all sorts of charges against the façade, and it deserved every one of them. So, too, I had a pocketful of faults to find with the inside—until I entered. From that moment, except the waste of the side aisles, I could see none. No interior of a great church ever so satisfied my conditions of taste before. It conveyed the impression of its size, and yet its size only lends grandeur to its beauty; and seen as I saw it, full of light and colour, there was a pervading joy and lightsomeness amidst all its peaceful quiet which I have never felt elsewhere. It was such a sweet bit of irony, this finding in the chief church of what people call dark bigotry and obscure mysteries the brightest and least mysterious Christian sanctuary ever seen." Such was the change of public opinion, continued Colonel Prendergast, and he for one was glad to be able to call attention to what he considered an erroneous criticism of so great a building. However, the work we had before us to-day was of the greatest interest, especially for the future. If one thing more than another was to be noted it was the extraordinary versatility of those great men. He agreed with every word that fell from Professor Pite on that point. The one thing which seemed almost hopeless in these busy days was for people to be able to accomplish so much. A man was a painter, he was an engineer, he fortified his city, and at the same time he had produced some of the greatest architectural works, which they were glad to admire. It was very heartbreaking—but, for all that, it was encouraging—to think that the profession which had to do with architecture must always produce its great men if they would only study the methods of the giants of those days.

Mr. BEDFORD, in responding, said that he was much impressed with Sir Henry's remark that he believed in the more personal study of the architectural work of the Renaissance. The point was also emphasised by Professor Pite. It was a feeling that he (the speaker) had had for many years, and was really the feeling which prompted him to make a study of Peruzzi. It was about twelve years since he spent some time in Siena, and he had been much impressed with what he saw there of Peruzzi's work. Afterwards, in going to Rome and other towns in Italy, and seeing still finer works by Peruzzi, he thought it would be interesting to study his life and get to know something more about him. It was a most interesting way of studying architecture. If anybody would take the trouble to follow the lives of the San Galli and other great architects of the Renaissance, and study their works, he was sure they would find it most interesting to themselves, and also, if their researches were published, to other architects. With regard to the Greek studies which Professor Pite referred to, Professor Pite himself spoke of the excavations then being made in Rome. Many of the antiquities which were found in Rome at that time were of Greek workmanship, and no doubt Peruzzi studied them very minutely. He was very much pleased with what Professor Pite said with regard to the Villa of St. Columba. He was sorry he had not a plan to show of that Villa. It was a most interesting plan—extremely well arranged, with large circular staircases; and there was no doubt, as Professor Pite said, that the leading lines of the building—the general outline, the great loggia on the upper floor, and the loggia on the ground floor—were very excellent. What he had said when the photo was on the screen was possibly correct, that the building had been altered and stuccoed over in the seventeenth century; and it was quite possible, after all, as the Sienese thought, that it was planned and designed by Peruzzi.

Mr. E. W. HUDSON [*A.*] writes since the Meeting:—

But for the lateness of the hour when the vote of thanks was put to the meeting, I should have liked to have given expression to impressions made upon an open mind in listening to Mr. Bedford's comprehensive account of Peruzzi's life and work, and, if it be not over-cautious to say it, also his reputed work.

The first striking fact doubtless is the vast amount admittedly performed by him, which places him in the front rank of the giants of the Renaissance period. The fact, however, that he died at the age of fifty-five or fifty-six—for reputed dates of birth and death vary—seems, I think, to exclude many attributed designs from being compassed in a working life of some thirty-five years.

In regard to dates, by the way, students should not alone be wary of accepting Vasari's statements, as Mr. Bedford points out, for in another important work * Peruzzi is given twenty years' more life, after 1536, which might well be conceived as necessary for the extra work latterly put to his credit.

The work at St. Peter's at Rome, and then his duties as city architect at Siena, must have taken up much of his time, and as it is known that he had many pupils, it is probable that when he had given the general design of a building or painting, the details were left to their individual feeling in execution, he exercising a general supervision. Serlio testifies to his attention to him, and no doubt the feeling was reciprocal with the other pupils.

The next point noticeable is the extraordinary versatility of his genius, which certainly derived little help from his master, the elder Maturino—a painter whose son became famous as the pupil of Raphael, and was a fellow sufferer with Peruzzi at the sacking of Rome.

The variety apparent in the design of buildings attributed to him does not lead one to rely upon architectural evidence as to any particular design being of his conception, though one type is said to have been developed at a later date by Pozzo. Though there is a similarity in some designs, yet there is great divergence if we accept all the slides exhibited by the lecturer as the work of one man. In one there is heavy rustication which might have suggested to Dance the design for Newgate Prison; another is as delicate as the monument of Lysicrates; and in church fittings there is an even voluptuous gorgeousness. Intermediate types are marked by applied features, thin pilasters, shallow recessed fenestration, which afford hardly any shadow to extensive wall face over which a widely projecting deep cornice gives a vast amount of shade. On this head no more apt description can be given than that applied by Lomazzo—*Architetto universale.*

In painting, also, diversity of style is equally apparent, almost suggesting several workers. He seems to have been inspired first by Perugino, then by Raphael and Giulio Romano, and to have tried to combine the characteristics of contemporaries in his own work, notably in his Presentation of Christ in the Temple. In the example, The Adoration of the Magi, in the National Gallery, portraits of Michelangelo, Raphael, and Titian are said to be given in the persons of the kings represented.*

In decorative feeling and mural painting the same diversity is noticeable. Imitation of his great friend in some fine soft work of a quite modern style is seen; in others it is quite pre-Raphaelite in hardness. Some of the painting on the coffered ceilings exhibited might have been suggested by Pompeii itself, lightness and delicacy being in marked contrast with some other mural work exhibited.

The last impression is the extreme modesty of the artist, the absence of all sordid motives in his life, his utter indifference to money, and apparent abstention from the intrigues which existed in the circle in which he moved, and which, if report be reliable, brought about his death, although from his needy circumstances there seems no cause for the jealousy that must have prompted the crime.

In these days of latitude in art—when, moreover, the Renaissance star is again in the ascendant, perhaps for a time only in England—the subject of the Paper scarcely seems adapted as a peg on which to hang a discussion about the comparative merits of the styles. It did not permanently help the Revivalists to write so harshly about "Pagan Architecture" and the "One-idea Roman Cement Men," and no lover of our splendid Gothic does so to-day; but they will, I trust, never cease to proclaim not only its beauties as no "dead" thing, but its adaptability to modern wants and as *ipso facto* very much alive, and quite likely to remain so until scientific construction is superseded by something which shall take the place of statics and the laws of gravitation. I only draw the bow at a venture, not having seen the article which drew forth some reflections by the last speaker at the meeting.

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* Chalmers's *Biog. Dict.* 1812–17.

* This is probably the work of a pupil.

9, Conduit Street, London, W., 22*nd Feb.* 1902.

CHRONICLE.

Prizes and Studentships 1902–1903.

The pamphlet containing full particulars of the subjects set for the Prizes and Studentships 1902–1903 will be issued to members with the Journal for 8th March. The prizes and subjects are briefly as follows:—

The Essay Medal and Twenty-Five Guineas, open to British subjects under the age of forty.—*Subject:* A Comparative Review of the various Past and Present Systems of Architectural Training at Home and Abroad.

The Measured Drawings Medal and Ten Guineas, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—Classical or Mediæval—in the United Kingdom or abroad.

The Soane Medallion and One Hundred Pounds, open to British subjects under the age of thirty.—*Subject:* Design for a Town Church on a Corner Site.

The Pugin Studentship: Silver Medal and Forty Pounds, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Awarded for the best selection of drawings and testimonials.

The Godwin Bursary: Silver Medal and Sixty-Five Pounds,* open to members of the architectural profession without limitation of age.—Awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

The Owen Jones Studentship: Certificate and One Hundred Pounds, open to members of the architectural profession under the age of thirty-five.—Competitors must submit testimonials, with drawings exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament.*

The Tite Prize: Certificate and Thirty Pounds, open to members of the architectural profession under the age of thirty.—*Subject:* Design for a Pavilion in a Public Garden.

The Grissell Gold Medal and Ten Guineas, open to British subjects who have not been in practice more than ten years.—*Subject:* Design for a Stone Dome over a Porte-cochère to a large Public Hall.

The Arthur Cates Prize: A Sum of Forty Guineas, open to British subjects who have passed the R.I.B.A. Final Examination at one Sitting during 1901 and 1902.—Candidates must submit (1) The original testimonies of study which procured their admission to the Final Examination; (2) Not less than three sheets comprising studies of subjects of Classical, or Renaissance, and of Mediæval Architecture, accurately drawn in perspective and shaded by rule, and also detailed studies of a groined vault of any period between A.D. 1100 and 1500. The prize will be awarded for the best set of drawings.

The Ashpitel Prize: Books value Ten Pounds.—Awarded to the student who distinguishes himself most highly in the Institute Final Examinations 1902.

Copies of the pamphlet may be obtained at the Institute, price threepence each.

Testimonial to Mr. J. K. Colling: Presentation to the Library of his Sketches and Drawings.

At the General Meeting last Monday, the following statement was made by

Mr. J. Osborne Smith [*F.*]: Through the courtesy and generosity of a number of persons interested in Gothic architecture, and others desirous of testifying their appreciation of Mr. J. K. Colling's work, a fund has been formed to purchase the original drawings prepared for his published works, in order to present them to the Library of the Institute. The conception of this fund, which serves the dual object of forming a testimonial to Mr. Colling and enriching our Library, originated with Mr. Herbert Batsford, who, with the eye of an expert, recognised the value and beauty of these interesting records, and thought they should be placed where they could be used by students for all time. The great skill and care and accuracy displayed in these fine drawings —many of them made under the greatest possible difficulty—testify to the painstaking industry and capacity of the author, and to his intense love of Gothic art. The five volumes will find a suitable home in the Reference Library here, and be a valuable mine of interest to present and future students of Gothic art, as well as to all who delight in really good drawing. A letter from Mr. Colling, which is inside one of the volumes, will show how gratefully he recognises the intentions of the subscribers in placing his most precious drawings where they will be best appreciated. Most of the subscribers are members of this Institute, and those who are not have thus testified their personal regard for Mr. Colling in this way.* I beg formally, on behalf of the subscribers, to present these five volumes to the Library of the Institute. They represent two volumes on *Gothic Ornament*, two volumes on *Details of Gothic Architecture*, and one on *Mediæval Foliage and Art Botany*.

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* The Council have increased the value of the Bursary for this year from £40 to £65.

The President: I understand that these works have cost £190.

Mr. Osborne Smith: I had the pleasure of handing Mr. Colling a cheque for about £190.

The President: I think, Mr. Osborne Smith, that you were mainly responsible for the getting up of these subscriptions to purchase them.

Mr. Osborne Smith: I have done what little work there was to do in connection with the matter.

The President: I am sure the Council are exceedingly obliged to you for the trouble you have taken in obtaining these works for us. It was a sum that the Institute itself could hardly afford to pay, and the trouble you have taken must have been very considerable. We are exceedingly obliged to you, and very grateful indeed for such an addition to our Library.

Professor Beresford Pite: Will you permit me on this occasion to add what may not be known to everybody in this room—that Mr. J. K. Colling fifty-five years ago was the first Hon. Secretary of the Architectural Association, and that we had the pleasure, owing to Mr. Rickman's antiquarian researches in the suburbs of London, of enrolling our dear old friend and having him at the Jubilee Banquet in 1896? We were quite delighted to find that such a charming artist, whose work we had known for so long a time, was still in existence. To have Mr. Rickman's discovery followed by this very kind and pleasing contribution to our Library through Mr. Smith's initiation is a very great pleasure to all the members of the Architectural Association, who feel that his connection with their Society is one of considerable importance.

Mr. James K. Colling: Sketch of his Career.

The presentation to the Library of five volumes of original drawings, made chiefly on the spot, by Mr. James K. Colling for his well-known books on Gothic Architecture and Ornament, affords an opportunity for a brief retrospect of a very interesting career.

Born early in 1816, and being prevented from attending school regularly by delicate health, he drew everything that came in his way, and began copying the illustrations in Stuart and Revett's *Athens* before he was twelve years old.

His first experience in an architect's office was in 1828, in Salvador House, Bishopsgate, where his elder brother, the late W. B. Colling, was working for Mr. William Brooks, architect of the London Institution. In the same house Mr. James Edmeston had offices, and at that time the late Sir G. G. Scott and Mr. W. B. Moffatt were his pupils.

In 1829 Mr. Colling was sent to Devonshire to school, and there took great delight in flower painting. His uncle, a great lover of flowers, encouraged him to persevere, and he acquired a fair amount of skill in drawing from nature. His father was at this time clerk of works at Covent Garden and Hungerford Markets for Mr. Fowler, and on the lad's return to London he passed a good deal of time on practical drawings in his father's office. Some of these drawings attracted the notice of Mr. Easton, who wanted to make him an engineer, but after four years' trial the pupil did not like the work and gave it up.

In 1832 he entered Mr. Matthew Habershon's office, where Mr. Ewan Christian was serving his articles: here they studied their "Rickman," and thought they knew a good deal about Early English Decorated and Perpendicular. With young Colling Gothic now took the place of Greek, and maintained its hold upon him during a long life. He became an enthusiastic student, shouting for joy at a first sight of the west front of Binham Priory, the first Early English building he ever saw. 1836 to 1840 was spent in Norwich, in the office of Mr. John Brown, and in visiting and sketching the Gothic buildings of the Eastern Counties.

In 1841-2 he spent six months in Messrs. Scott and Moffatt's office, afterwards continuing to sketch and study Gothic work, making perspectives, and lithographing book plates for other architects, &c., till in 1846 the first number of *Gothic Ornament* was prepared and published, the drawings being made on the spot from ladders and other inconvenient positions, and transferred to zinc plates by the author himself. The first volume was completed in 1848; the second followed in parts from August 1848 to August 1850. The volumes of *Details of Gothic Architecture* came out later, being commenced in 1852 and finished in 1856. During 1849–55 Mr. Colling drew architectural subjects on wood for the *Illustrated London News*, including the 1851 Exhibition building, Houses of Parliament, Northumberland House, &c.

This drawing and book-making was interrupted by several important commissions:—Hooton Hall, Cheshire; the Albany, Liverpool (a large block of offices); Ashwicke Hall, Gloucestershire (a castellated Gothic mansion, with farmhouse, lodges, stable, &c.); Sculpture and Picture Galleries at Hooton Hall; new church of St. Paul at Hooton; Cuxwold Hall, Lincolnshire; alterations and additions to Rangemoor Hall, Staffordshire; new schools at Coppenhall, Cheshire, and at Marshfield, Gloucestershire; new house at Caterham, Kent; additions to Farnham Hall, Suffolk; additions to Kelmarsh Hall, Northampton.

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* A list of the subscribers is given by Mr. Colling in the letter referred to, which will be found in Vol. I. of the *Gothic Details*.

In 1858 Mr. Colling read a paper at the Royal Institute of British Architects on "Natural and Architectural Foliage," and in 1865 a paper on "Art Foliage." In 1865 he published in book form a series of articles and illustrations on "Art Foliage" which had appeared in the *Building News*, advocating the principle of applying natural form to ornamental purposes, instead of merely copying old examples. This book was most favourably received and appreciated: a second edition was produced in 1878. In 1874 his last book, entitled *Mediæval Foliage*, was prepared and published.

His later work includes the restoration of Holkham Church, Norfolk, upon which he read a paper at the Institute in 1870, which was illustrated by a large number of very interesting drawings; Eye Church, Suffolk; Hingham Church, Norfolk; Arthingworth Church and Kelmarsh Church, both in Northamptonshire; Scole Church, Norfolk; Melbury Church, Dorset; Oakley Church, Suffolk; the Chapel of the Mercers' Company, London; and the new Grammar School at Eye.

His passion for drawing continues and affords a delightful pastime, architectural and flower subjects being still his favourites. A few years ago I accompanied him to some of the interesting churches in the neighbourhood of North Walsham which he had visited just fifty years before: his eager, enthusiastic appreciation of the details was contagious as he sketched them with undiminished skill.

To good judgment in selecting examples of old work for illustration, combined with painstaking skill and accurate drawing, we are indebted for these most interesting records of some of the most beautiful "historical documents" to be found in this country.

Mr. Colling was one of the group of young men who started the Architectural Association, and was a member of the Institute as Associate and Fellow for about thirty years.

J. Osborne Smith.

The late Marquis of Dufferin [*H.F.*].

The Marquis of Dufferin and Ava had been an Hon. Fellow of the Institute since 1866. On behalf of the Institute the Council have forwarded to Lady Dufferin a message of sympathy and condolence.

The Secretary has received the following letter from M. Charles Lucas [*Hon. Corr. M.*]:—

Paris, le 15 *février* 1902.

Monsieur le Secrétaire et cher Collègue,—Je ne saurais oublier, lorsque l'Angleterre perd un de ses diplomates éminents et l'Institut Royal des Architectes Britanniques un de ses membres honoraires, en la personne du très-honorable marquis de Dufferin et Ava, que ce dernier avait bien voulu, sur la demande que je vous avais faite en souvenir des services qu'il avait rendus à nos deux nations lors de son ambassade en France, accepter la présidence d'honneur du Comité de patronage de la Grande-Bretagne au Congrès international des architectes tenu à Paris en 1900, et, à ce titre, je me permets de vous adresser, pour mes confrères de l'Institut Royal des Architectes Britanniques, l'expression de mes respectueux sentiments de condoléances.

Croyez, monsieur le secrétaire et cher collègue, à mes sentiments dévoués.

Charles Lucas.

Special Election to Fellowship.

The Council at their Meeting of the 17th February elected the following gentleman to the Fellowship of the Royal Institute, under the proviso to By-law 9:

Frederick Moore Simpson, Professor of Architecture at the Victoria University, Liverpool; President of the Liverpool Architectural Society.

Concrete Staircases.*

Mr. W. H. Haynes [*A.*] writes:

The paragraph about concrete staircases on page 161 of the Journal seems to show that the Portland cement supplied for the work was not so good as Portland cement of that weight used to be.

Permit me to add that such samples as came under my notice, with two exceptions, during the twelve months last ensuing, have given way, and I do not in my circle advise building operations where cement has to be employed until the Portland cement is warranted as strong and *durable* as formerly.

To test *that* seems to require samples to be kept a year at least before parting with the bulk of the cement, as new material could not be so well depended upon.

One matter that came under my notice was the difficulty in making contractors use proper mortar-boards; and a quantity of both cement and concrete was persistently mixed in the common roadway.

Mr. Wm. Scott [*A.*], of Bordighera, upon whom the King of Italy recently conferred the honour of Knighthood of the Order of the Crown of Italy, has been elected Hon. Academician (*Accademico d' Onore*) of the Royal Academy of Fine Arts in Venice.

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* See report of the case *Rowton Houses, Limited,* v. *Crow*, in the last number of the Journal.

REVIEWS.

A GREEK MONASTERY.

The Monastery of St. Luke of Stiris in Phocis. By R. Weir Schultz and S. H. Barnsley. Fo. Lond. 1901. *Price* 63*s. net.* [*Messrs. Macmillan & Co.*]

This volume is published for the Committee of the British Archæological School at Athens, and forms a record of a portion of the work carried out in Greece by the two architects whose names are attached, during their term of studentship at the school. Its publication has been long delayed, but we may venture to hope that it may be followed by a further instalment of the careful observations and drawings made by the authors during more than one visit to Greece, and dealing with the same period of architecture. It is a matter of great satisfaction to see an architectural work of this importance published under the auspices of the British Archæological School at Athens, and it should serve as an incentive to other young architects to devote some months of serious study, as students of the school, to the investigation and delineation of the architectural remains scattered through the country, many of which still await a faithful recorder.

The monastery described in this volume is one of the most important in Greece: it is somewhat inaccessible and but little visited by tourists; but accounts have been rendered of it from time to time by various travellers. In recent years, under the direction of the monks themselves, all the records of the monastery have been published. M. Diehl, of the French School of Archæology at Athens, has devoted much time to the study of the mosaics, and has published the result of his investigations, but these were not accompanied by any very complete illustrations.

The present volume combines with a careful historical and descriptive account of the buildings and their decoration a series of general and detail drawings which, together with a few photographs, completely illustrate the general arrangements, the structure and decoration of the two churches which form the special glory of the monastery. Both churches were founded late in the tenth century, but the authors consider that in their present form they date from early in the eleventh, and that of the two the great church with its crypt dedicated to St. Barbara is the earlier in date. The smaller church, which lies to the north-east of the great church, is curiously irregular in plan; both are rich in marble work and mosaic, though the latter has suffered greatly at various times.

The text gives evidence of the extremely thorough and careful observation that was devoted to the study of the buildings and of much subsequent research, and an important section is devoted to the iconography, the mosaics being fully and methodically described, and a short chapter is devoted to an account of this dependent monastery of St. Nicholas-in-the-Fields. The student of Byzantine architecture will be specially grateful to the authors for the admirable series of plates which illustrate the buildings described in the text. These include plans, elevations, and sections, and an isometric section illustrating the general character of the buildings, clearly drawn and reproduced.

The decorative treatment of the floor, walls, and vaults is very fully illustrated by a series of general and detail drawings. The drawings are most of them in line, but there are many coloured plates illustrating the inlaid floors, the rich marble lining of the walls, and especially the mosaic decorations of the vaults. A plate showing the head of St. Gregory is particularly successful in rendering the mosaic work to a large scale with a faithfulness of effect not attainable with drawings reproduced to a small scale. Looked at as a whole, the plates, of which there are sixty, illustrate the buildings in an unusually complete and satisfactory manner, and reflect the greatest credit on the authors and the publishers. It is particularly satisfactory to have so many of the plates produced in colour, and so well produced, when colour forms such an important element in the decorative treatment. R. Elsey Smith.

MODERN HOUSE BUILDING.

The Art of Building a Home. A Collection of Lectures and Illustrations. By Barry Parker and Raymond Unwin. 8o. Lond. 1901. *Price* 10*s.* 6*d. net.* [*Longmans, Green & Co.*, 39 *Paternoster Row, E.C.*]

The republication of lectures, delivered presumably to small and special audiences, argues, on the part of their authors, not only a conviction of the importance of the subjects dealt with, but also confidence that their treatment of them is worthy the larger audience to which in book form they will be addressed. If such self-confidence is ever essential, it is surely so in the case of a book like the one under review, whose joint authors feel compelled to cry aloud that "the time," *i.e.* the architectural Zeitgeist, "is out of joint," and appear to consider that *they* are called upon "to set it right." But, if a volume of lectures is to justify its selection out of the increasingly numerous claimants for a place on the library bookshelf, it is imperative that the subjects, however important, should be treated with charm of style, and more especially with freedom from redundancy, two qualities to which our authors, as workers rather than writers, would probably not lay claim.

The lectures deal principally with Art (with a capital A), and prove no exception to the rule that the more debatable the subject the more dogmatic its treatment. The authors commence with a lament that Art—at least what they consider Art—is entirely absent from modern house building. For this, apparently, the architect is largely to blame in that "he but too readily accepts the popular idea of Art as a thing quite apart from life, a sort of trimming to be added if funds allow." According to their view the ideal house should be designed to fit, or to educate if necessary, the taste and needs of its occupant; the rooms should be arranged "to carry on the business of life freely and with pleasure"; the furniture should be fitted and designed as part of the general scheme, and "made for use"; the ornament something which it has "given pleasure to the producer to create." An artist friend should be invited to "leave his easel pictures and paint on our walls scenes which shall . . . become part of the wall on which they are painted. . . . Then, if necessary, let the rest of the walls go untouched in all the rich variety of colour and tone, of light and shade, of the naked brickwork. Let the floor go uncarpeted and the wood unpainted, that we may have time to think, and money with which to educate our children to think also. Let us have rooms which once decorated are always decorated . . . which can form backgrounds, fitting and dignified at the time, and in our memories for all those scenes, those acts of kindness and small duties, as well as the scenes of deep emotion and trial which make up the drama of our lives at home." We cannot help wondering what would become of this embodiment of the owner's idiosyncrasies if health, business claims, or one of the many causes which upset calculation and disturb dreams of permanent settlement, compelled him to leave his shell and find another occupant for it. But our authors anticipate the objection, and admit that they are advocating a counsel of perfection which is largely inapplicable "in our days of speculative building, short leases and shorter tenancies."

Having given some indication, as far as possible in the authors' own words, of their views on design, we are hardly surprised to find their views on artistic education equally unconventional and equally depreciatory of things as they are. According to them the first requisite for any artist is that "he should have that within him which craves for expression and which can only be expressed through the medium of an art." If he would become an architect he should "acquire a comprehensive knowledge of pure building construction, but no architecture," should learn a handicraft, if possible, and should then try to give expression to his own ideas. When he encounters difficulties he should endeavour to solve them unaided, and not till he finds himself beaten should he look to history and see how they have been overcome by others before him. In short, "suggestion" should *follow* "natural development" rather than precede it. Whether such a scheme is not equally as Utopian as our authors' ideas of house design is open to argument, but their indictment of the present educational system is certainly not strengthened by the statement—as questionable in fact as in taste—that "the course of study laid down by the Institute has turned out by the thousand men . . . with no vital appreciation of the spirit and causes which lead to the existence of any one of them" [the styles], "but *not one*" [the italics are ours] "who can evolve a really vital work of art." Something, however, must be forgiven to individuals who refer to the effect of the Renaissance as a "taint," and its works as "abominations," and who, "behind one of Wren's spires," can only see "the man with paper and drawing instruments, hard mechanical lines, laboriously measured off on a drawing-board, with mathematical calculations of proportion figured all round the margin."

In justice to our authors we must add that, when they condescend from theories to deal with the "art of designing small houses and cottages," their remarks are both practical and suggestive. But perhaps the most interesting part of the volume is the supplement of photo reproductions of interiors, &c., which, as they are intended to illustrate the proper application of Art principles to everyday uses, are with modesty confined to the authors' own works.

From what we have said and quoted it will be seen that the book can only hope to appeal to a limited audience, and our only justification for noticing it at this length is the hope that the majority, who might have been attracted by its title and general appearance, will be saved the disappointment and outlay which its acquisition might involve. HERBERT A. SATCHELL.

ARCHITECTURAL HISTORY.

A History of Architecture. Fourth edition. By the late Professor Banister Fletcher, F.R.I.B.A., and Banister F. Fletcher, A.R.I.B.A. [B. T. Batsford, 94, High Holborn.]

This book is a very concise and methodical summary of the various text-books extant, and brings out the salient characteristics of the styles of the successive ages in such a marked manner as to form a most useful book to the student of architecture in procuring a good all-round general knowledge of the subject; it further has the advantage of forming a very correct foundation for deeper reading and study of all or any particular style, this quality being enhanced by the list of standard reference books given at the end of each subject.

The illustrations are good, consisting of 128 reproductions from photographs and 128 line drawings: the latter are clear and well drawn, and, together with the comparative tables and plates, emphasise the architectural character of the several periods so clearly and distinctly that they should be easily understood and followed, not only by students and art workers, but by any lay readers who may interest themselves in artistic development.

One is inclined to think the authors have been a little too keen in their endeavour to bring their book up to date by giving a list of architects, with some of their works, in the short record of the nineteenth-century English Renaissance from 1851 to the present time: one has yet to learn that some of the works mentioned are worth immortalising, whereas there are others worthy of mention which are omitted.

Part II., according to the preface, is an addition to the previous editions, and is given up to what is designated as the "Non-Historical Stylos": it is useful and, moreover, helps to thoroughly complete a most valuable volume—one that is not too costly, and one that has long been wanting, and which will without doubt prove to be much appreciated by the students of the R.I.B.A.

Ernest R. Barrow.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session 1901–2, held Monday 17th February 1902, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 21 Fellows (including 10 members of the Council), 25 Associates (including 3 members of the Council), 2 Hon. Associates, and visitors, the Minutes of the Meeting held 3rd February 1902 [p. 164], were taken as read and signed as correct.

The Hon. Secretary formally announced the decease of the Marquis of Dufferin and Ava, *Hon. Fellow*, and mentioned that the Council were sending a letter of condolence to the Marchioness of Dufferin.

The decease was also announced of James Stevens, of Manchester, *Fellow*, elected 1877, past President of the Manchester Society of Architects; and Edward William Barnes, of Bristol, *Fellow*, elected 1882.*

The following Associates attending for the first time since their election were formally admitted and signed the Register—viz. Benjamin Priestley Shires, *Tite Prizeman* 1886 (Plymouth), Ernest George Besant (Cambridge), John Percy Hall, and Edgar John Pullar.

Mr. J. Osborne Smith [*F.*] made a communication to the meeting respecting a testimonial recently subscribed for and presented to Mr. J. K. Colling, and having, on behalf of the subscribers, formally handed over to the Institute for the Library five volumes of the original sketches and drawings prepared for Mr. Colling's published works, the President accepted them on behalf of the Institute, and thanked the subscribers.

A Paper on Baldassare Peruzzi, illustrated by photographic lantern slides, having been read by the author, Mr. Francis W. Bedford [*F.*], and discussed, a vote of thanks was passed to Mr. Bedford by acclamation.

The President having announced the special business for next meeting—viz., Sir William Richmond's resolution *re* Smoke Abatement, and the Exhibition, to be held in the Meeting-room, of photographs of architectural works collected by the National Photographic Record Society—the proceedings terminated, and the Meeting separated at 10.10 p.m.

LEGAL.

Ancient Lights.

PARKER *v.* W. F. STANLEY AND CO. (LIMITED).

This case came before Mr. Justice Farwell in the Chancery Division, and judgment was delivered on 8th February, the hearing of the evidence having occupied two days. It is reported in *The Times* of the 10th inst.

The plaintiffs in the action carry on business as photographers, under the title of W. G. Parker and Co., at 288, High Holborn, their studio, gallery, and dark-room being situated in a one-storey building at the rear of the premises. When the plaintiffs first entered into possession, in 1890, this building was lighted by a number of skylights which were ancient lights. The plaintiffs subsequently slightly altered the pitch of the roof of the building and enlarged the skylights over the studio, but they darkened or obscured the skylight over the portion of the building used as a dark-room. To the west of the plaintiffs' premises is a long strip of land behind 287, High Holborn, about 15 feet wide, which was formerly partly bounded on the western side by an old building about 33 feet high, which was pulled down in 1885. In February, 1901, the defendants, who carry on business as mathematical instrument makers, at 4 and 5, Great Turnstile, High Holborn, commenced building operations on the site of the old building demolished in 1885, and since the issue of the writ in this action have raised their building to a considerable height above the line of the said old building, whereby the plaintiffs complained that the access of light to their premises was seriously diminished. They accordingly claimed a mandatory injunction for the removal of such portion of the defendants' new buildings as obstructed or injured any of their ancient lights as the same were previously enjoyed. The defendants denied that there was any material diminution of light, and contended that as regards the dark-room the plaintiffs had abandoned their right to ancient lights. They further contended that, as the premises now occupied by the plaintiffs had prior to 1890 been used as an eating-house, the plaintiffs were only entitled to so much light as was necessary for those purposes.

Mr. Jenkins, K.C., Mr. F. H. Colt, and Mr. F. J. Coltman, appeared for the plaintiffs; Mr. Bramwell Davis, K.C., and Mr. Percy Wheeler for the defendants.

Mr. Justice Farwell, in delivering judgment, said that there could be no doubt that, when the plaintiffs took the premises in 1890, the skylights were ancient lights. The action was concerned with the skylights over the studio and the dark-room. As regards the dark-room, abandonment had been pleaded, but he could find no evidence to support the plea. The fact that the plaintiffs had darkened or obscured the skylight was not sufficient—the room might be required at any time for other purposes. Then, with regard to the studio, the old skylight had been replaced by what was practically a glass roof. But that new glass roof covered the place occupied by the old window, and their right of ancient lights had thus been preserved, although, of course, it only applied to that portion of the glass roof formerly occupied by the old window or skylight. The defendants had raised their building several feet above the line of the old building which formerly stood on the site, and after hearing the evidence his Lordship was clearly of the opinion that the access of light to the plaintiffs' premises was thereby materially diminished. The fact that before 1890 the premises were used not for photographic purposes, but as a restaurant, was immaterial to the present issues. Photographers required, and reasonably required, special light, and since the judgment in "Warren *v.* Brown" (1902, 1 K.B. 15) the plaintiffs were entitled to complain that they were injured by the defendants' buildings in the conduct of their photographic business, even if that business had not been carried on in the premises for twenty years. The parties had not been able to come to any terms, and consequently he was constrained to grant a mandatory injunction, but it would apply only to the additional obstruction caused by the defendants' new buildings as compared with the old buildings that formerly stood on the site. He thought the parties ought to be able to arrange between themselves what form the necessary alterations should take.

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* The Secretary has also received notification of the death of Hugh Thomas Porter, *Associate*, elected 1897.

The West Front of the Parthenon Athens.

THE LEARNING OF ARCHITECTURE.—I.

ROYAL ACADEMY LECTURES, 1902.

By Professor Aitchison, R.A., *Past President*, *Royal Gold Medallist.*

THE lectures I propose giving are on "The Learning of Architecture," and I may premise my lectures by saying that the general conception of architecture as an art is that any young person taken at random can become an architect, or, to put it in English, a wise master-builder, if he or she be properly taught. No greater mistake is possible, for to become a wise master-builder is generally only given to very few in a century, except perhaps in certain countries, at those great art epochs when the inhabitants seemed to be blessed with superior abilities, and when the desire for excellence in this fine art may be said to have permeated all classes. Architecture is the poetry of construction, and I believe this poet of construction is born and not made.

No one would think of apprenticing his son or daughter to a poet when neither of them had shown even so small a capacity for rhyming as the wit who wrote an epigram on a University Professor whose name was Hawkes—

"Hawkes
Talks."

Nor would he think of putting either of them with a musical composer in the hopes of their rivalling Handel, Mozart, Beethoven, or some of the great Greek composers, if neither of them had ever shown the slightest taste for music; and I should say that it would not be wise to attempt to make either of them a painter if he or she had never shown the slightest appreciation of colour, nor try to make either of them a sculptor if neither of them had a love of form. But at the same time, if either of the persons mentioned had ever so great a genius they could not arrive at excellence in any fine art without severe and prolonged study and striving. As Ben Jonson said, Horace's axiom was true that "a poet was born and not made"; but for all that a poet took a great deal of making.

We will suppose that the young person who desires to become an architect is a boy, and was born in the last century and lives in London, and that his native love for the art has been stirred by the sight of some of the many magnificent buildings which London contains, which he hopes to equal or surpass, and that the chance of doing so has been suggested to him by the number of new buildings he sees being carried on. He must have heard that certain buildings, or portions of buildings, have now and then fallen down, and when he sees great towers, spires, vaults and domes, he will naturally ask himself how these wonders are made to stand; from reading or conversation he will find that the method of building these securely has been the subject of investigation for several centuries, and that it is a branch of natural philosophy called Statics. He will probably ask himself how the architects before the discovery of statics managed to build structures of the same sort without this knowledge, and the answer to this is *by experience*. I do not at the present moment recollect reading of any great building catastrophe in Roman times, though there were doubtless many, except the collapse of two vast theatres that turned on pivots to form an amphitheatre, and these were, I suppose, of wood; during the operation of turning them, when they were full of people, the whole collapsed, and so many of the audience were killed that it was said that there was not a single family of distinction in Rome that had not lost one or more of its members.

It is when we come to the Romanesque period that we read of many failures of buildings, and that when they did not absolutely fall they became so ruinous that they had to be pulled down. The only catastrophe that I now recollect in Gothic times is the fall of the central tower at Beauvais. I think it first fell in 1284; in the sixteenth century the architect wished to make it taller than St. Peter's, which is said to be 434 feet high, but the Beauvais tower fell in 1573. The wits of these early generations of partially reclaimed savages are said to have been greatly sharpened by the teaching of the great Abelard in the eleventh and twelfth centuries; but, however it came about, some of the men of these centuries became keen observers and close reasoners, and naturally thought out the causes of these costly failures, and set their wits to work to find a way to prevent them. Owing to the constant fires that took place and the churches that were burnt down, the problem that was forced on their attention was the covering of churches with incombustible ceilings, which of course then meant vaulting, and this was first successfully managed by letting the nave vaults abut on the triforiums; but this only admitted of very small windows in the back wall of the triforiums, and the naves were left in obscurity. The Romanesque architects finally found that if the pressure of these groined vaults could be counteracted at certain points and carried down by buttresses to the ground, the vaults of the nave would stand securely, and large windows could be made in the clerestories, and this may be considered as the foundation of Gothic. At the end of the eleventh century a part of the most daring and intelligent of the population had made a tour through Europe, Asia Minor, Syria, and Palestine, where they came across the Arabs, who had then learned a great deal of Greek geometry and of its further advancement by the Hindus. As the worst of all faults that a building can have is to fall down, and the next to be unstable and become ruinous, our student will naturally make himself acquainted with the laws of statics, which now want a considerable knowledge of mathematics. Being thus equipped with the knowledge necessary for building securely, his next object will be to learn how buildings are to be made into such forms as will captivate the eye and raise the desired emotions. He will find in London several Gothic structures that may well fill him with admiration; but supposing his capacity and industry have enabled him to draw accurately the nude human form, he will feel that these Gothic forms do not harmonise with it, but he will also find that amongst the many fine examples of Renaissance architecture that exist in London there are those whose suavity and elegant proportions will completely harmonise with the nude human form. He will see, too, that the ungraceful proportions and the crude geometrical forms which were so prevalent in Gothic did not harmonise with the culture that had been developed in Italy at the Renaissance, for Gothic had been developed at a time when the newly studied geometry was the fashion of the day, and that as the other nations of Europe became cultured too Gothic died out.

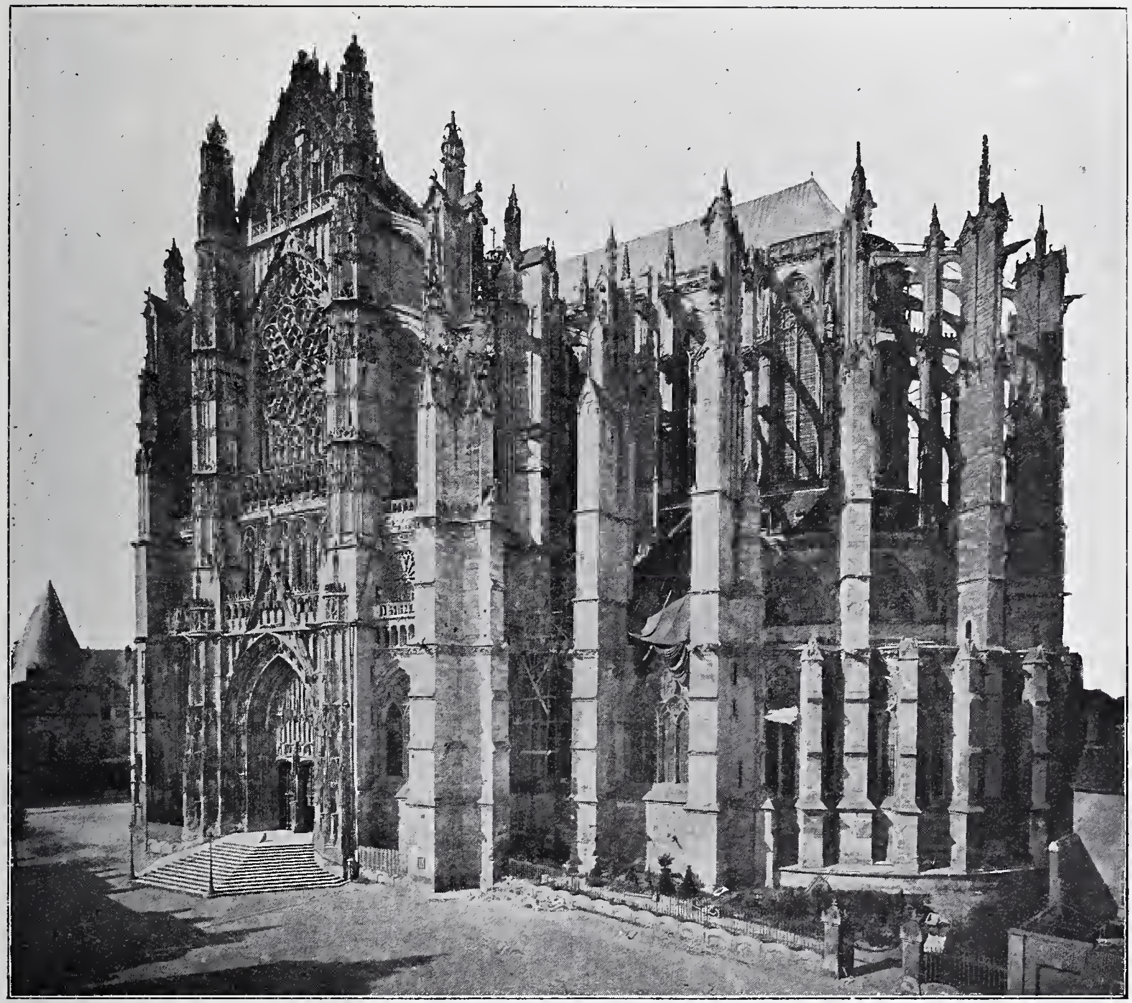

FIG. 1.—BEAUVAIS.

The subject that will next engage him is how the different complex arrangements of buildings for various purposes are to be arranged conveniently and healthfully, how the parts of the building of different heights can be formed into an agreeable or striking feature, and how the openings necessary for light and entrance can be so proportioned and grouped as to form an agreeable whole for ordinary buildings, and how the same can be done to produce exquisite beauty, magnificence, or sublimity in buildings that are made for high and important duties; and though all buildings can to some extent be made to show the ends to which they are adapted, their more recondite uses can only be expressed by sculpture or painting.

From the earliest times architecture seems to have been created for the purposes of religion, and buildings for worship have mostly been made in such a form as to excite feelings of awe, wonder, sublimity, and other high emotions. There is no doubt that certain forms give delight to mankind, whilst others raise the higher emotions. We see in the work of Nature that some forms fill us with delight, others with wonder, others with awe; some mountains have beautiful associated lines and plains, some are lofty and peaked, and strike us with awe, as do the dark mouths of huge caverns against plain surfaces in sunlight; the alternation of the boles of large trees in dark forests, which contrast with open sunlit glades, is enlivening. But as yet we have no regular account of the progression of the art; it seems that most of the prototypes of building have been but enlarged and beautified dwellings of the people, whether these have been caves, huts, or tents. We occasionally see rocks grouped naturally like a mediæval town, as, for example, those near Amalfi.

The knowledge of the methods by which we are taught all that we know of refined early architecture is obtained from actual measurement and from the abstracts of the methods made by Vitruvius from Greek treatises, and from these abstracts we find that an elaborate system of proportioning was carried out, and means were eventually adopted to correct any inelegances of form caused by optical effects; there are some animadversions of Plato on the devices used by the Greek architects to produce the effects they wanted, which Plato considered were deviations from exact truth. From the buildings at Athens being generally in ruins and all horizontal planes that were capable of supporting anything being covered with fragments, those parts of Vitruvius which dealt with these optical refinements were not understood: as far as I know that part of Vitruvius was never properly translated till Wilkins wrote his book on *The Civil Architecture of Vitruvius*, which was not published till 1812, and he candidly states there that he had never observed these refinements in any of the buildings of antiquity. This book caused the English architects who were then in Greece to try and see if they could detect any of those optical refinements in the lines of the Greek buildings. John Pennethorne made some very elaborate attempts, and wrote one or two books on the subject between 1878 and 1884, about which there was much controversy, till Mr. Penrose offered to the Dilettante Society to go out to Greece and take the horizontal and vertical lines by means of a level and theodolite, and this book was published by the Dilettante Society, I believe, in 1851, and was republished in 1888. It is highly probable that when architecture was at its greatest height in Rome that the Greek refinements were adopted in a modified form to meet the coarser perception of the Romans. During the Byzantine period we do not even know whether these optical refinements continued to be used, but it is not at all likely that in Romanesque times such refinements would have been appreciated. No architectural literature has come down to us from Gothic times save the sketch-book of Willars de Honecourt,[*] which is not a treatise but merely a memorandum-book for his own use; but it is the general belief of the learned that certain proportions were used to get the general harmony of Gothic buildings. Some inkling of the method employed at Milan Cathedral is given by C. Cæsariano in his *Vitruvius* of 1521, on which there are some emendations in Latin by the Marquis Poleni (1683–1761) in his *Exercitationes Vitruvianæ.*

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[*] *Album de Villard de Honnecourt*, par J. B. A. Lassus; 4o. Paris, 1858. *Facsimile of the Sketch-book of Wilars de Honecort*; Rev. R. Willis; 4o. London, 1859.

The adoption by the Renaissance architects of Italy of the old Roman forms, between 1404 and 1444, took so great a hold of mankind that Gothic architecture, which had nearly worked itself out, was extinguished by the new taste, though in parts of England it lasted till the time of Charles I., when the staircase to the dining-hall of Christ Church, Oxford, was built. This gap in architectural history is greatly to be deplored, for it is unlikely that the mystery of architecture, or the Architects' Trade Guilds, were not furnished with many interesting particulars as to what effects were sought for, and which buildings were considered to have succeeded the best. Unfortunately, after the first rapturous admiration of revived Roman had somewhat subsided, the Renaissance architects seem to have been smitten with a sort of pedantic paralysis, mainly brought about by the Humanists after the finding of the Codex of Vitruvius in 1414, which discouraged invention and bound the architects with antiquarian fetters to imitate strictly the Roman examples. It is true that there was some little resistance to this, but it mainly took the form of extravagance and contortion. We must recollect that though the Renaissance at its first emergence gave a great stimulus to the visual fine arts, it was in itself a throwing off of the fetters of the mind imposed by ecclesiastical authority, and mankind were rapidly led to study the grand phenomena of Nature in the heavens; and this eventually led to a knowledge of some of the laws of Nature, which were ultimately, by the aid of machinery, made to work for us, enabling mankind to increase enormously in number, by giving them the power of the elemental forces to work for them, and these powers that man has become master of have quite thrown into shade the efforts of the fabled spirits which Milton speaks of—

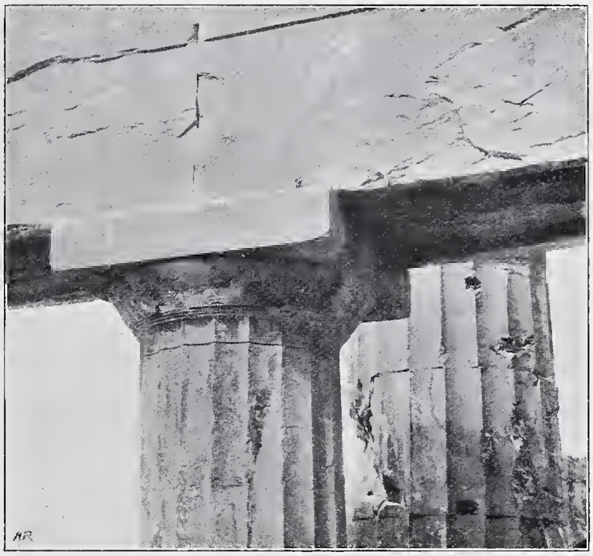

FIG. 2.—DORIC CAPITAL.

those dæmons that are found
In fire, air, flood, or under ground,

and have to a great extent abolished time and space. The means by which the elemental powers are utilised for doing our work is by machinery, which usually takes the most hideous forms, and has not only accustomed us to ugliness, but apparently has almost extinguished the love of beauty, and rendered us callous to it.

All advancement in civilisation has come about by very slow degrees: it is like the coral reef made by the accretions of innumerable little insects; but though it takes a long while to form, when once formed it presents an impenetrable barrier to the wildest attacks of the ocean when driven by the wind.

Every new generation requires some novelty from that which has immediately gone before it. The poets, even, who apparently have nothing to restrain them in their creations but poetic capacity, have all gone back to the study of Homer, commonly called the father of poetry, and even to the Hebrew lawgivers, prophets, and poets, if these be older, as well as to the creations of the great men who have appeared through subsequent ages, to see if they could not capture the means of producing the greatest sublimity with the greatest simplicity; for, as Swift said of writing, nothing great is ever attained without simplicity, and this applies to all the fine arts. Architects must study the methods employed by their forerunners, and learn, if possible, the secrets of those inimitable creations of the Greeks, if they want to surpass them in the present day, and I must remind you of the extraordinary pains the Greeks must have taken to get the proportions and the optical refinements of their temples and public buildings, and their mouldings, so perfect. The Theatre of Dionysos is a wonderful building, which I first saw and admired in a photograph before I went to Athens.

Art is, of course, only science too complex for man's present capacity to unravel, and I dare say if man's delight in beauty is not extinguished, some day we shall have much more solid reasons for making forms that please the eye or excite the emotions than we have at present, and though an art like architecture is very recondite, we can deduce many laws from what has been done before; but in all creative work it is very difficult to know when, where, and how these laws should be applied. Many of the laws are perfectly well known, and the question only is where they are to be applied. For instance, in buildings that are especially wanted for grandeur and magnificence, simple repetition is one of the most important laws to be observed, because, for some reason, variation in repeated things is only a merit when no imposing effect is necessary. The Greeks got over the monotony that simple repetition generally produces by imperceptible variations, and that was only at the very acme of their architectural art. For instance, you do get very tired of the repetition of the Doric order in the Temple of Theseus, but you never get tired of looking at the repetition of the Doric columns of the exterior of the Parthenon, because there are slight variations which prevent them from palling on the eye and make them like the works of Nature.

Contrast is another of the important laws of composition in architecture. We see its continual use in the Greek temples and public buildings, where the horizontal lines of the steps contrast with the columns and their vertical flutes, and where the stiff and rigid-looking triglyphs contrast with the sculpture in the metopes, and greatly enhance the curved lines and modulated surfaces of the figures. The Pyramids of Egypt are perhaps the grandest instances of contrast. When we first see their little triangles they greatly enhance the long dead level of the desert, and what is effected by the horizontal steps and entablatures of the Parthenon is done by the long horizontal line of the front of Lincoln Cathedral,* which enhances, on so gigantic a scale, the effect of the vertical towers.

Symmetry, which now means the repetition of similar features on each side of a central line, is reasonable enough in certain cases—that is, where the two sides of any building serve precisely the same purpose—and is a very useful method of producing a pleasant effect; but what symmetry really means is now called proportion, and that proportion is not an arbitrary one, but is the proportioning each part of the edifice to every other part in harmonic ratio, which was carried to the highest perfection by the Greeks of the best age, and by Michelangelo.

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* See illustration, JOURNAL R.I.B.A., Vol. V. (1898), p. 504.

You have all heard of the word "style," which merely means the forms mostly affected by the people at art epochs, and continued long enough to leave many examples.

As I am not a prophet I cannot say whether this nation will ever be blessed with those capacities that will enable it to evolve something new which is different from what has gone before, and surpasses in its merits the best work that has hitherto been done; but there are no signs of such capacity now existing. If this were an epoch in which there was great architectural invention we could point to the use of iron and steel for the structure of buildings, which certainly afford an opportunity of using new materials unhampered by tradition, and which too requires new proportions and a new ornamentation, and may be rendered gorgeous by enamel; but the invention and capacity of the present day in architecture turn away from new materials and new possibilities, and prefer to play new tunes on the old instruments, when they do not play the old ones.

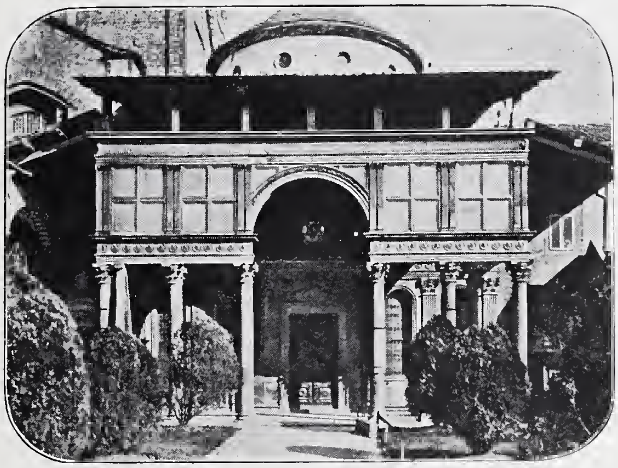
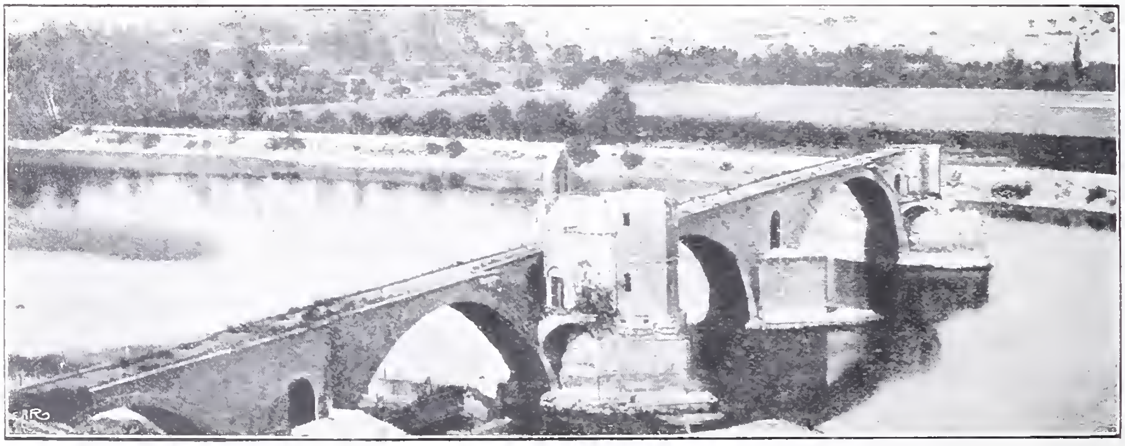


FIG. 3.—THE OUTSIDE OF THE PAZZI CHAPEL, BY BRUNELLESCHI.

The methods of building hitherto employed have only been perfected in the course of long ages, and that perfecting has not by any means gone on in the same line. The Romans—who had become acquainted with the use of the arch, and found it most admirably suited to their wants—not being an artistic people, not only did not think of producing anything new, but endeavoured to combine the post and lintel work of former ages with their own arched system of construction. And though there was a little improvement or harmonising of these two antagonistic styles in Byzantine, it was not until the savages who overran the Roman empire had got some slight civilisation, and had seen all the architecture of Europe and Hither Asia, that Gothic sprang up. This was new in almost every respect, and it is evident that the Gothic architects and craftsmen considered that they were superior to any race that had gone before, and that they could not be improved by the studying of old works, but were creating something entirely fresh for the admiration of mankind. After Gothic times, although there was a great desire to attain the massiveness and suavity of Roman work, came a period very barren of invention. Except where it formed a hybrid style with Gothic, you may almost say that revived Roman died out through pure inanition, and until we can get a long succession of architects of great invention and genius the alterations rather incline to run into the form of extravagance and oddity, whereas what we want is an original evolution accompanied by elegant, refined, and beautiful forms, and the whole structure in perfect harmonic proportion. We got some help a year or two ago from a suggestion of that great American thinker on architecture, Mr. Leopold Eidlitz, who said that we want beauty in a cottage, a house, a palace, and a cathedral, but they are not quite of the same sort. They may be compared to the beauty that is found in birds, as in a wren, a dove, a gull, and an eagle; each of these birds is beautiful in its way, but each has a distinct characteristic, and this distinction is gained by each species having the different parts perfectly adapted to the functions they have to perform, and that consequently, when we know the functions that a building, and every portion of it, have to fulfil, and we make the building fulfil all those functions properly, it will take the form we want, and be possibly beautiful but certainly characteristic; but it is evidently a very difficult task to ascertain exactly the form each part should take to resist the stresses and strains that are put on it. Nature possesses the power of making everything that she creates equal to the work it has to do, and gives character to all her works, and to some of them beauty. It is needless to say that our powers are so imperfect as compared with those of Nature that we can hardly expect to secure these ends at the first trial, even if we possess the knowledge that is necessary; but I think it is a very good lead, and one that we should endeavour to follow.

But though Greek architecture, as regards art, is by far the most perfect the world has yet seen, as regards invention and construction Gothic is. Ware says, "In the time of Pericles, though sculpture might be mature, architecture was in swaddling-clothes." But Ware, who was a mathematician and engineer, wilfully miscalled construction architecture.



AN OLD COURT QUARTER OF PARIS.

By William Henry Thorp [*F.*], Leeds.

[*Read before the Leeds and Yorkshire Architectural Society, 6th February* 1902.]

'TIS thirty years since! This fact was brought vividly before my mind, whilst sitting at breakfast in my comfortable quarters in the Boulevard des Italiens, by the unexpected appearance of my travelling companion of the year 1871. To go abroad—to see Paris, had been the summit of our youthful aspirations; and hardly had the city on the banks of the Seine settled down after the terrible war with Germany, followed by the excesses of the Communards, than we two found ourselves one bright August morning nearing the white cliffs of Dieppe, and a day or two later entering the fortifications of the recently besieged capital. How old memories reassert themselves! How true it is that first impressions of foreign scenes and life are not readily obliterated!

Paris in its extremity, and yet Paris already showing signs of renewed vitality! The Hôtel de Ville, a shapeless mass of ruins; the Palace of the Tuileries, a scorched skeleton of its former self; the Vendôme column lying in fragments around its base; the remains of blood-stained barricades—the ambulances of wounded soldiers—and the hated German outpost housed under the shadow of the abbey church of Saint-Denis! A melancholy picture truly; but still one with some gleams of brightness amid its gloom. The sun shone as brightly as of yore, the river threaded its silvery course, spanned by its numerous bridges; Notre-Dame still lifted its twin towers to the azure sky, and the populace thronged the thoroughfares with active movement and vivacious gesture.

The most famous square in Europe, the Place de la Concorde, was still intact. Its obelisk of Luxor, its fountains, and its monumental groups representing the chief cities of the Empire had escaped the hands of the vandal, but Strasburg—then as now—wore its bands of crêpe and wreaths of immortelles.

Yet to be seen was the Arc de l'Étoile, terminating the vista of the Champs-Elysées; and, looking northwards, the Grecian façade of the Madeleine formed an appropriate finish to the Rue Royale as viewed between Gabriel's fine twin buildings of the Garde-Meubles and the Ministry of Marine. Garnier's stately Opera House had not yet received its finishing touches; but the Avenue was practically complete.

To be brief, Paris was entrancing. It has since been revisited many times, and still its power to charm is nearly as strong as ever. It is impossible to exhaust its resources, and its treasures of art year by year increase, to give pleasure alike to the amateur and student.

But it is not the so-called "Sights of Paris" that I wish to enlarge upon this evening. It is not Paris of the boulevards that is to claim your attention. It is a forsaken haunt of royalty, an old Court quarter deserted by fashion, a relic of bygone architecture, that, with what skill I possess, it is my desire to bring before your notice.

There appears to be a general tendency for people of rank and fashion to migrate from east to west—a tendency which is not only to be observed in London, and in many other cities of lesser note, but is common also to the sunny capital of France. If we allow our thoughts to travel back to the time of Mary Tudor and Elizabeth, and to the epoch of contemporary sovereigns on the other side of the water, we do not find the French king and court residing at Versailles or Saint-Cloud. Prior to the time of Francis I. the Palais des Tournelles was the abode of royalty in Paris; and it was not until he had reigned for some years that he commenced the building of the present palace of the Louvre in 1541, on the site of the old château which had previously been demolished.

Pierre Lescot was his architect, and his contribution to this huge pile of magnificent buildings is still to be seen and admired, occupying the south-western angle of the large interior court. The Palace of the Tuileries dated from 1564, and was designed by Philibert Delorme for Catherine de Medicis, though neither she nor her sons ever inhabited it. Catherine was responsible for the abandonment and demolition of the old Palais des Tournelles after the death of her husband, Henry II., who was accidentally killed in a tournament which took place in the immediate vicinity. It was left to Henry IV., the first king of the House of Bourbon, to erect in its place the Place Royale, now known as the Place des Vosges.

The ancient Place Royale is "the old Court quarter" of my lecture. With it I wish to associate and describe the neighbouring beautiful old house known as the Hôtel de Carnavalet, at one time the residence of Madame de Sévigné, and now fitted up as the historical museum of the city of Paris. Both are situated in the quarter known as the "Marais," so called on account of the district having been originally low-lying, marshy ground. The "Marais" lies on the north side of the river, and east of the Hôtel de Ville; and, roughly speaking, it may be said to be bounded by the Boulevard du Temple on the north, the river Seine on the south, and the Place de la Bastille on the east. It is intersected by the Rue Saint-Antoine. Historically speaking, it is one of the most interesting parts of Paris, and within its limits are to be found a large number of ancient mansions of the nobility, dating from the sixteenth and seventeenth centuries.

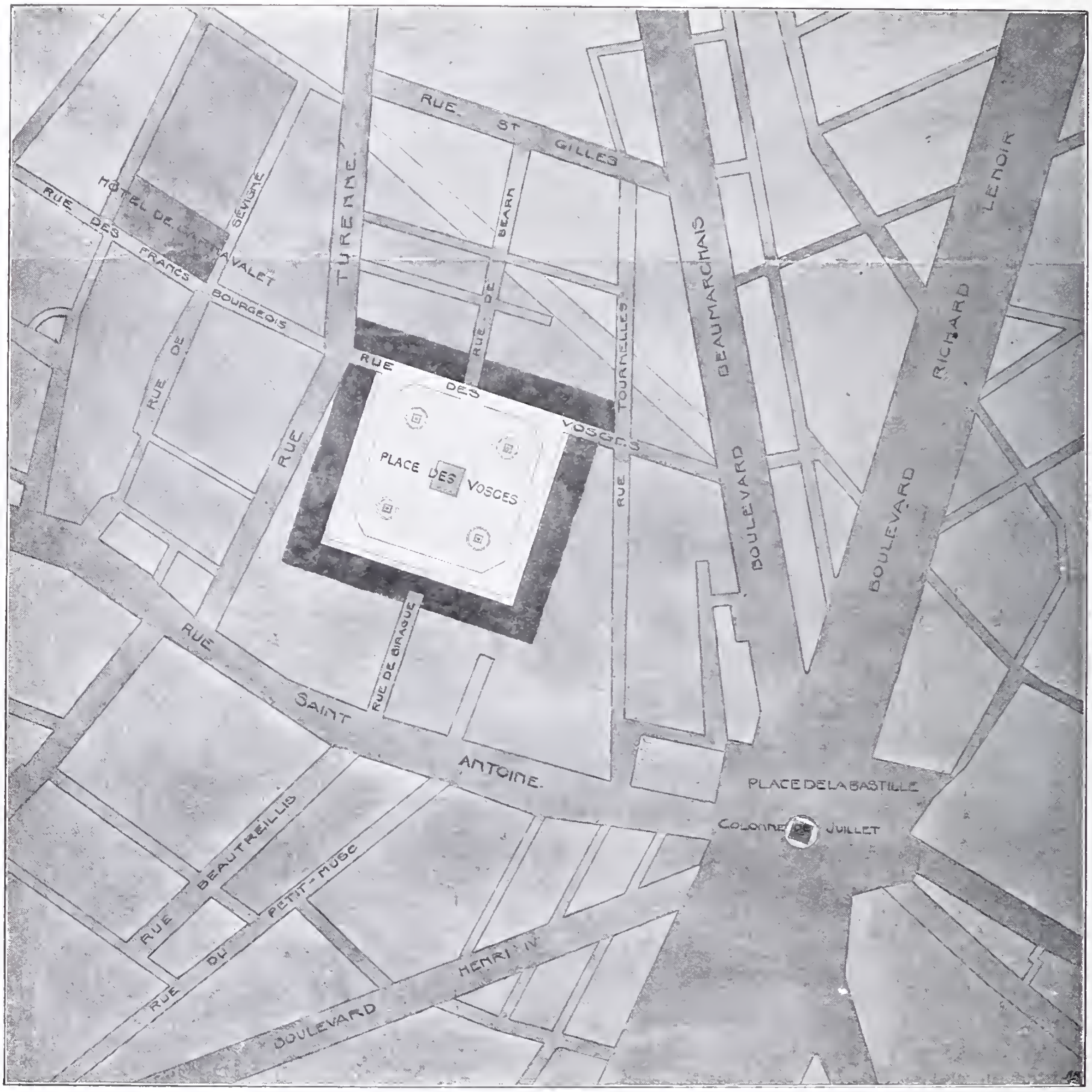


FIG. 1.—MAP, SHOWING SITUATION OF PLACE DES VOSGES AND THE HÔTEL DE CARNAVALET.

To the north of the Rue Saint-Antoine, and running parallel with it, is the old Rue des Francs-Bourgeois, which in its course eastwards is continued across the north side of the Place des Vosges. It is also approached from the Rue Saint-Antoine by the short Rue de Birague, whose vista is charmingly terminated by the picturesque building with its high-pitched roof and arcaded gateways [see p. 205], giving access to the square, formerly known as the Pavillon du Roi. Crossing its portals, the modern world is left behind with its latest novelties in the way of "l'art nouveau" which have even invaded the old-fashioned thoroughfare of the Rue Saint-Antoine. Dotted here and there, the entrances to the stations of the new subterranean electric "Chemin de fer Métropolitain" are roofed with quaint Japanese-looking spreading palm-leaf, or umbrella-like, shelters of glass and iron—coquettish shapes and notes of colour, in the somewhat sombre surroundings of lofty time-honoured tenements, whose windows have looked down upon tragic scenes of anarchy and revolution.

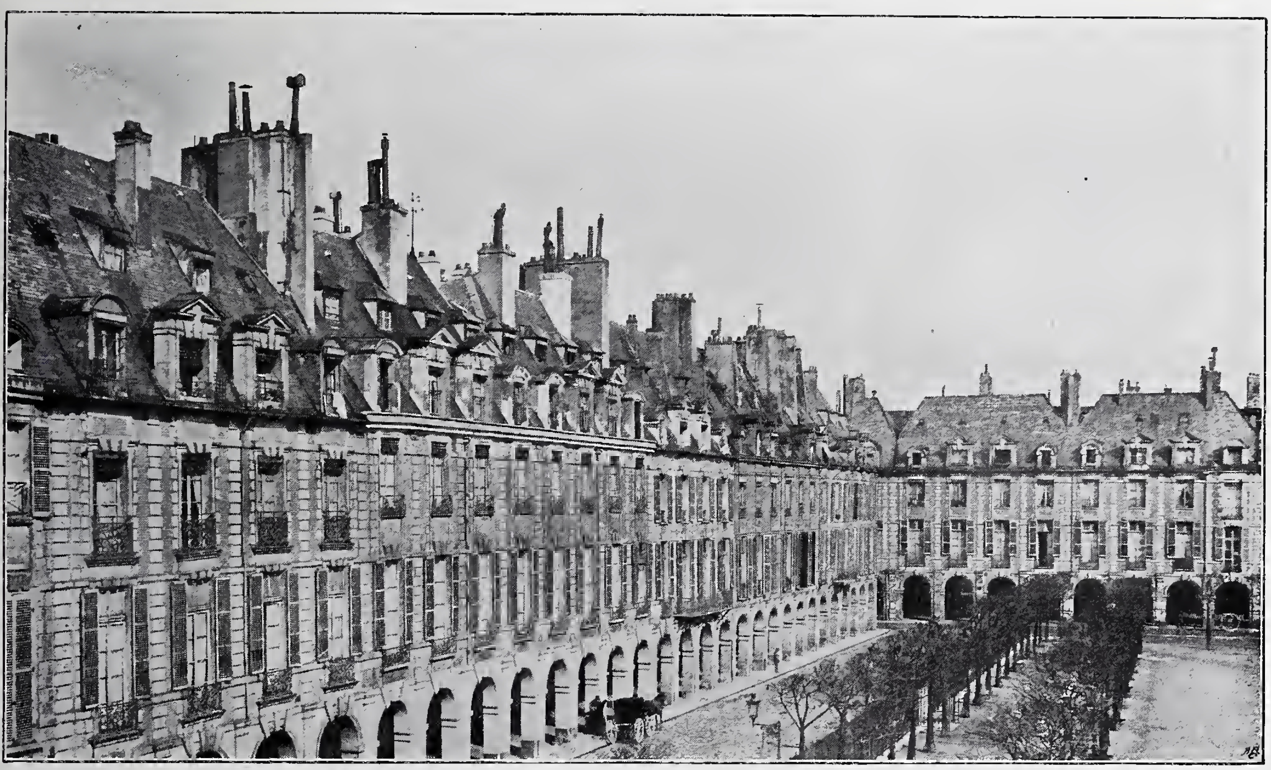


FIG. 2.—PLACE DES VOSGES : NORTH-WEST ANGLE.

THE PLACE DES VOSGES.

The Place des Vosges is a quiet oasis in the heart of the Marais, a relic of the days of Richelieu, and is an excellent and well-preserved example of the architecture of Androuet du Cerceau. Occasionally a motor car disturbs the serenity of the old square as it rushes along the roadway that crosses it on the north, or a bicycle with sounding bell swiftly passes by. Tranquillity, however, mostly reigns. It is now the paradise of babes and nursemaids, of children flying kites or driving hoops, and of superannuated people of ancient date, who pass their days lolling on the benches in the sun, and sleeping their time away. It is the earliest example of a square in Paris laid out on a symmetrical plan, and the credit of its conception must be given to the Duc de Sully, the friend and minister of Henry IV. In the reign of Henry III. the ground was used as a horse fair, and it was not until the reign of his successor that the Place Royale took shape, and was constructed on the site of the old Palais des Tournelles. Its laying out was authorised by a Royal edict of July 1605, but it was not finally completed until 1615, when it was opened with a magnificent fête given in honour of the Infante of Spain, on the occasion of his marriage with Elizabeth, sister of Louis XIII. It will thus be seen that ten years sufficed for its construction.

Its plan is simplicity itself. It consists of a large quadrangle—about 500 feet square. For purposes of comparison, it occupies three times the area of the great court of Trinity College, Cambridge, which is probably familiar to many of you; and which, they say locally, is one of the largest quadrangles in Europe having its four sides connected by buildings. The Place Royale, however, cannot be said to be entirely surrounded by buildings without a break, as intervals are left at its two northerly corners for the crossing of the continuation of the Rue des Francs-Bourgeois, here called the Rue des Vosges. Otherwise, it is practically enclosed.

Upon entrance, at a first glance, one's mind is impressed with its appearance of great spaciousness. A roadway is carried round it, and the interior space is fenced in with cast-iron railings of modern design, which in the time of Louis Philippe replaced a splendid iron grille decorated with emblems of Louis XIV., which was erected in 1701 to enclose the gardens.

Entering the central area, it will be seen that an equestrian monument forms its central feature. Four fountains with circular basins occupy its corners, and a bandstand shadowed by trees completes its equipment. Needless to say, the bandstand is a modern innovation. The four fountains, of modern design and simple architectural character, enclosed within parterres of flowers of brilliant hue, formed no part of the original project; but the equestrian statue was, if not a feature of the first design, shortly after added to the attractions of the *place* by Richelieu in honour of his master, Louis XIII. The horse was the workmanship of Daniele da Volterra, and had been cast three-quarters of a century before, but had not previously been used. The figure of the monarch was by Biard, a contemporary sculptor, and was represented clad in armour, with a plume of feathers on his helmet. Sad to relate, this celebrated statue shared the fate of so many other objects of historical interest at the time of the great Revolution of 1793, when it was hurled from its pedestal and melted down for cannon by the insurgents. It has since been replaced by a modern replica, which, although it leaves much to be desired from a critical point of view, forms, as did its predecessor, the central feature of interest in the midst of its interesting surroundings.

Let us now leave the open court and give some attention to the ancient buildings with which it is encompassed. Here lamentations on the score of vandalism are hardly called for. Happily, with little exception the exterior of the houses is unaltered, and they remain intact as they left the hands of the builders three centuries ago. Time has dealt gently with them. The touch of his fingers has tended here and there to soften a certain severity of line and to blend into mellow harmony the contrasting hues of brick and stone and silvery slate. Picturesque uniformity is the keynote of the composition—breadth of effect, enhanced, not marred, by piquant detail.

The trained eye of the architect will notice at once that the unity of the architectural composition and the similarity of the character of the houses surrounding the square bear witness to the design having originated in one master mind—the mind in this instance being that of the celebrated architect of the time, Jacques Androuet du Cerceau. Du Cerceau was not only an architect of note, but he was also the author of a celebrated work on architecture, entitled "*Les plus excellents Bastiments de France*," which he dedicated to the "very illustrious and very virtuous princess, Catherine de Medicis," and which was published in Paris in the year 1576.

In number the houses fronting on the square are thirty-six—nine on each side—and the two central pavilions on the north and south are emphasised by being carried up to a greater height than the adjoining buildings. The triple vaulted arched entrances of the southern pavilion form a noticeable feature, the wider central archway being reserved for carriages, and the two narrower ones for foot passengers. A lantern or cupola is the only distinguishing characteristic of the central *hôtel* on the eastern side. Otherwise neither it nor its *vis-à-vis* on the west has anything of note to differentiate them from their immediate neighbours.

The side nearest to the Rue Saint-Antoine, with its central "Pavillon du Roi," was built entirely at the expense of the king, Henry IV.; and building sites on the remaining sides were conceded to his courtiers on payment of a small annual tax, and on the additional understanding that their houses should be erected at once, and that they should be carried out from the design of his architect. The result has certainly justified the king's action; and to his wise forethought we owe the harmonious grouping and symmetry of this important architectural undertaking of the seventeenth century.

In more recent times we have known of imperial magnates assuming the *rôle* of arbiters of taste, with questionable qualifications for the position; but in this instance it will generally be conceded that the royal prerogative was exercised with laudable discretion. The king took the greatest interest in the buildings during the time they were in progress. Whilst in Paris he was in the habit of constantly visiting the works, and when in residence at his country château of Fontainebleau he often referred to them in his correspondence with his minister Sully. Unhappily he did not live to see his favourite project completed. When he fell by the hand of the assassin Ravaillac, in 1610, the square was still unfinished, and he was thus debarred from realising his intention of taking up his residence in the southern central pavilion.

The architectural characteristics of the buildings demand some attention, and we will now spend a little time in an examination of their details. Open arcades of stone on the ground floor, forming a covered promenade round all the sides of the square, support two upper stories of brick relieved with stone and pierced with lofty windows, which are framed in masonry, with rusticated quoins and flat lintels. They are shadowed by a projecting cornice of bold character and simple design, which, with an almost unbroken line, binds the houses together. High-pitched roofs with hipped ends, " great heaped-up summits of slates, surmounted by finials of lead fashioned with varied ornament " (the mansard had not yet been introduced), crown the whole. Diversified by charming dormers and lofty chimney-stacks, these roofs form an effective finish to the buildings below, and supply that most necessary feature, from an æsthetic point of view, a picturesque sky-line.

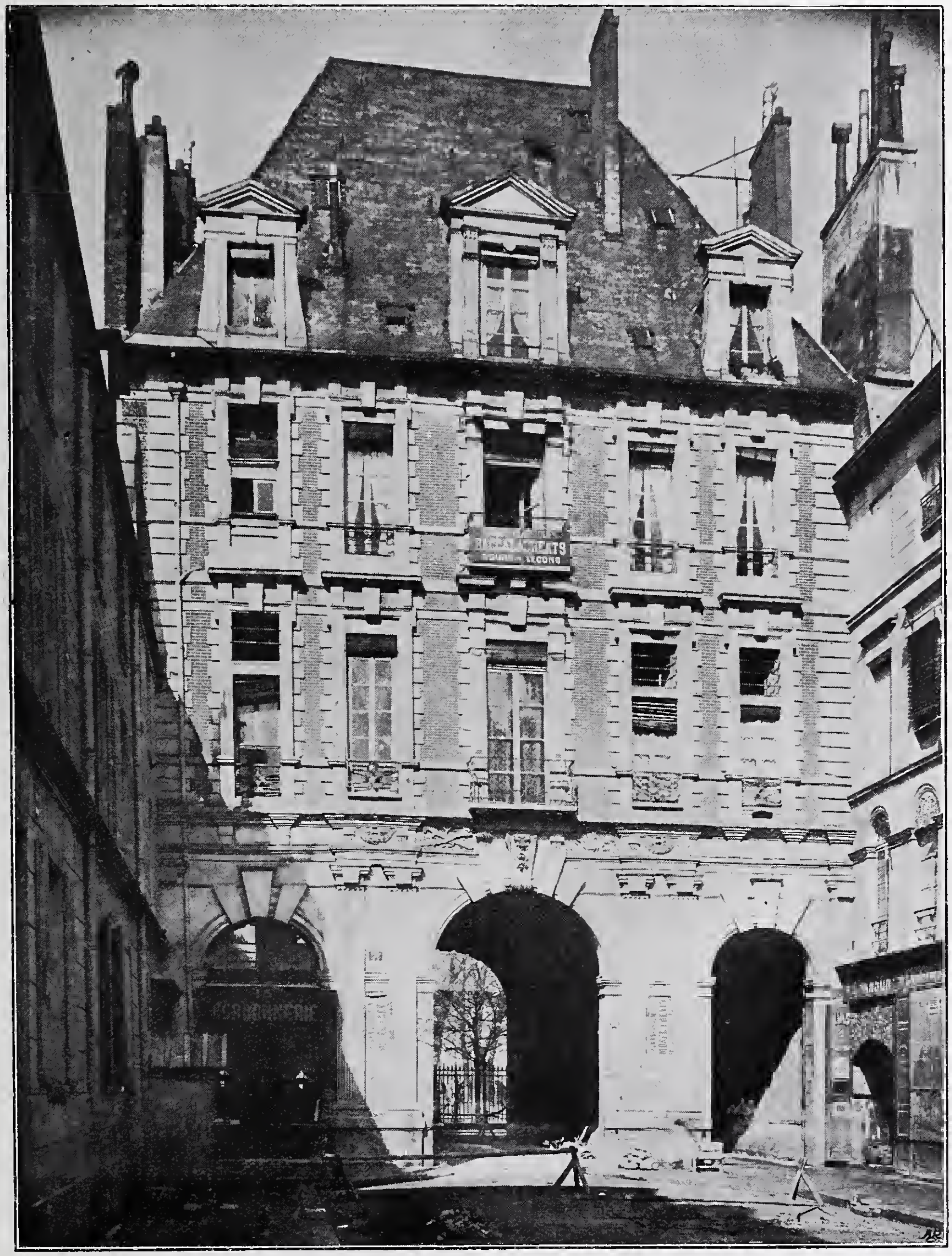


FIG. 3.—PLACE DES VOSGES : PAVILION ON THE RUE DE BIRAGUE.

It will be observed that although the open arcades on the ground floor and the fenestration of the upper stories impart to the buildings an appearance of unbroken continuity, the roof treatment above effectually defines the limits of each particular house. Midway in the high-pitched slopes, or somewhat below, the roofs are hipped back at right angles to the frontage line, this simple device being sufficient in itself to answer the desired purpose. In the case of the two contiguous houses at the southern re-entering angles of the square the roof is not united, but runs down to the cornice level, leaving a V-shaped opening to the sky, which gives a rather weak appearance at these positions – which slightly detracts from what is otherwise an effective treatment.

In the case of a square of later construction—I refer to the well-known Place Vendôme, the work of Mansart, an extremely fine example of the grouping together into one design of a number of smaller buildings—this difficulty has been successfully overcome. Here the corners of the *place* assume an octagonal form on plan, the roof is continuous and unbroken, and the canted sides play as important a part in the main design as the central features on the eastern and western sides. These are each emphasised by being treated with an applied order, which carries a pediment above. We have, therefore, an appearance of strength where that quality is lacking in the earlier design of Du Cerceau.

Returning to the Place des Vosges, we will examine one of the houses in detail, and, to use an algebraical definition, resolve its façade into its constituent parts. Elevationally it is divided into four bays, an arcade of four arches, ranges of four windows separated by slightly projecting rusticated stone pilasters, and four dormers standing on the eaves cornice, the two central ones being loftier and more important than those at either end. It would be difficult to imagine anything much simpler in the way of architectural composition. The semicircular stone arcading, divided by plain pilasters with quasi-Doric capitals, but without bases, is bold in treatment, and gives an air of strength to the ground-floor stage of the buildings. Moulded archivolts spring from imposts of simple detail, which, as they approach the crown of the arches, are diversified by the introduction of three projecting rusticated voussoirs, which give a distinctive character to this part of the design. The arcades are vaulted. The vaulting does not follow the curve of the circular arches, but is elliptical in section, and springs from the wall at a higher level than the impost. The substantial severity of the ground-floor stage is not carried into the upper stories. Here stone alone gives place to a diversified treatment of stone and brick, in contrasting but not inharmonious colour. In truth it is this contrasting colour which gives an added charm to the *ensemble*. The reds and creamy drabs are so happily interlaced, and their pristine hues are so toned and subdued by the passage of years, that the colour effect, as seen between the spreading foliage of the trees adorning the square, is extremely happy.

In this connection another successful example of the use of brick and stone for elevational effect—an example which is familiar to many of you—may be mentioned. I refer to the inner portion of the Cour Royale of the Palace of Versailles, which formed part of the original château of Louis XIII., and which is the oldest part of the building. With its stone pilasters and mellow-toned brick walling, enriched with marble busts on brackets, which were afterwards added at the suggestion of Mansart, it forms a very attractive composition.

Returning to our old square, after this digression, the window treatment of the upper stories of the buildings requires some description. The windows are lofty, and their appearance of height is increased by the vertical lines of the panels which are introduced between them. They are framed within moulded stone architraves, with outer rusticated quoins, and their horizontal lintels are enriched with boldly projecting rusticated voussoirs. This treatment obtains throughout the square. The levels of the heads and sills vary to some extent, and the details may slightly differ, but otherwise uniformity reigns supreme. Here and there a projecting balcony adds interest to the wall surface, and ornamental grilles of forged iron in many cases are introduced to protect the lower part of the windows. Some of these apparently date from the construction of the buildings, but others are of a later period. Venetian shutters, folded back against the walls, also help to diversify the scene, and here, as is often the case at home, they contribute to the general effect.

Surmounting the eaves cornice, the dormers demand a little notice. The lateral dormers, with their segmental arched pediments, are smaller in size than the two central ones, which are finished with the customary pediments of triangular shape. Moulded architraves frame the window casements; and projecting rusticated voussoirs here, as below, add interest to the horizontal lintels. From a constructive point of view one is perfectly aware these latter features cannot be defended; but from the decorative standpoint they impart variety and give pleasing effects of light and shade.

Here and there, resting on the window-ledges, relieved by the shade of the dusky interiors, pots of gay flowers radiate vivid notes of colour. The upper stories, surveyed from the exterior, look decidedly attractive. There is something, after all, to be said for life *au troisième*, and an existence in a garret is not always so melancholy a state of

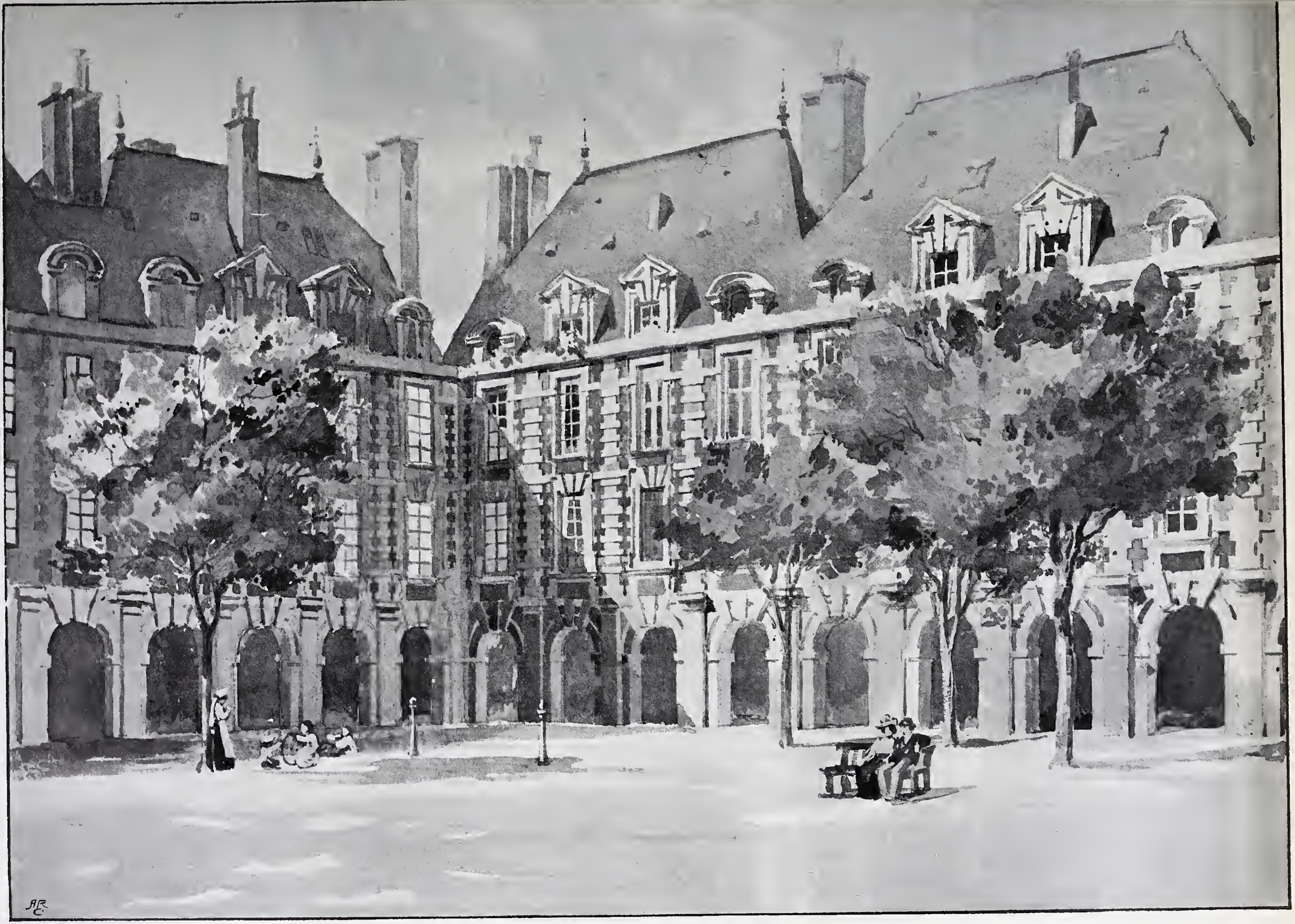


FIG. 4.—PLACE DES VOSGES : SOUTH-WEST ANGLE.

From a water-colour sketch by the author, reproduced in black and white for illustration purposes by Mr. C. W. English.

affairs as it is sometimes depicted. The ascent of many stairs is ofttimes rewarded by a wider range of vision.

Jutting from the roof-slopes of silvery blue-grey slate additional dormers of wood and slate reveal an upper storey still, in some of the houses. As human habitations these may not be so very desirable or worthy of recommendation, but in other ways they may serve a useful purpose.

Roof coverings, as we are aware, are not of everlasting duration — they occasionally require repair. For the purpose of securing ladders and planks for the use of the workmen strong iron curved hooks are inserted at intervals, and will be noticed on careful examination. The architectural student who has sketched in Flanders and Germany will be familiar with these useful accessories, and it is interesting to see them again in Paris.

The chimneys are plain; no other term would be exactly appropriate. They are carried well up above the roof summits, and ascend in unbroken vertical lines from the slates to their slightly projecting moulded copes—for, really, to call them cornices would be a misnomer. The vase-shaped *épis* or finials punctuating the angles of the hips have already been referred to. They are of more artistic interest; and with their mention we must leave the exterior of the buildings and give some attention to their interiors.

In the palmy days of the seventeenth century, when to inhabit one of the mansions of the Place Royale was to be in the height of fashion, the internal suites of rooms must have presented an attractive, and in some instances a sumptuous appearance. The *hôtel* of Cardinal Richelieu, for example, was beautifully furnished; its walls were hung with precious works of art, and objects of interest and value met the eye at every turn. Lebrun and Mignard painted the ceilings of the *hôtel* of M. de Nouveau, and the residence of the Marquis de Dangeau vied in magnificence with that of the great Cardinal himself.

Little of this former grandeur now remains, but some slight idea of its character may be obtained by a visit to the Hôtel de Carnavalet, where on an upper floor a room has been fitted up with the original ceiling, decorations, and appointments of an apartment of the Hôtel Dangeau. The ceiling is damaged, but it has, happily, escaped the hands of the restorer. Here, again, Mignard and Lebrun respectively claim the honour of having painted its panels. The walls, hung with tapestry, and gilded woodwork retaining its old patine, add colour and subdued brightness to this beautiful example of the period of Louis XIV. Its general effect is very charming—a study in golden yellows, russet, bronze, and olive-greens, all toned down by age, and happily blended together.

Returning to the square, the house inhabited by Marion Delorme is pointed out to us, and we are told that long afterwards, from 1835 to 1848, it was the dwelling-place of Victor Hugo, who knew this quarter and its neighbourhood well. Every other house has been the habitation of some celebrity or wit. Ninon de l'Enclos, the celebrated beauty, occupied a fine *hôtel* in the Rue des Tournelles, hard by, which can still be visited; and the *salon* can be seen where Molière first read *Tartuffe* to an admiring and select audience. His *Précieuses Ridicules* was a satire on the extravagant pretensions of some of the literary people and blue-stockings of the day, many of whom, however, were talented, brilliant, and witty. Originally frequenters of the Hôtel de Rambouillet—where, in the days of Louis XIII., Catherine de Vivonne, Marquise of the noble family of Rambouillet, gathered around her a cultured circle comprising all that was best in the world of courtesy, taste, and letters—the later followers of this literary set migrated to the Place Royale. Here what was originally an effort for the promotion of purer language and nobler manners degenerated into affectation and absurdity in too many cases; and it richly deserved the castigation it received from the pen of the famous author and playwright. An exception must be made in the case of Madame de Sévigné. A tablet secured to the wall of the house adjoining the southern central pavilion records the fact that there the writer of the celebrated letters was born. The name of this talented wit and woman of fashion, who exercised so much influence during the latter part of the seventeenth century, deserves more than passing mention, and we shall return to it again, as she is a connecting link between the old square of Henry IV. and the Hôtel de Carnavalet, which is the subject of the second part of my paper.

Before proceeding, however, let us take a last glimpse at this old Court quarter of Paris. It may have lost something of its early attractions, but its beauty and picturesqueness have not yet departed. Its roofs, which formerly sheltered the courtiers of a bygone age, and its *salons*, which were the rendezvous of wit, fashion, and beauty, now fulfil more prosaic duties. Merchants' offices monopolise its principal floors, and its upper rooms are let off in flats. Some of these do not always find tenants, and the familiar notice, "Appartements à louer," appears in many of the windows. In the arcades small shopkeepers transact a quiet business, which cannot prove very lucrative. But, notwithstanding its quiet descent in the social scale, the place and its surroundings are still pervaded by an air of old-fashioned dignity and respectability.

HÔTEL DE CARNAVALET.

Bidding farewell to the old arcaded houses of brick and stone, and wending our way westwards, a short five minutes' walk brings us to the Hôtel

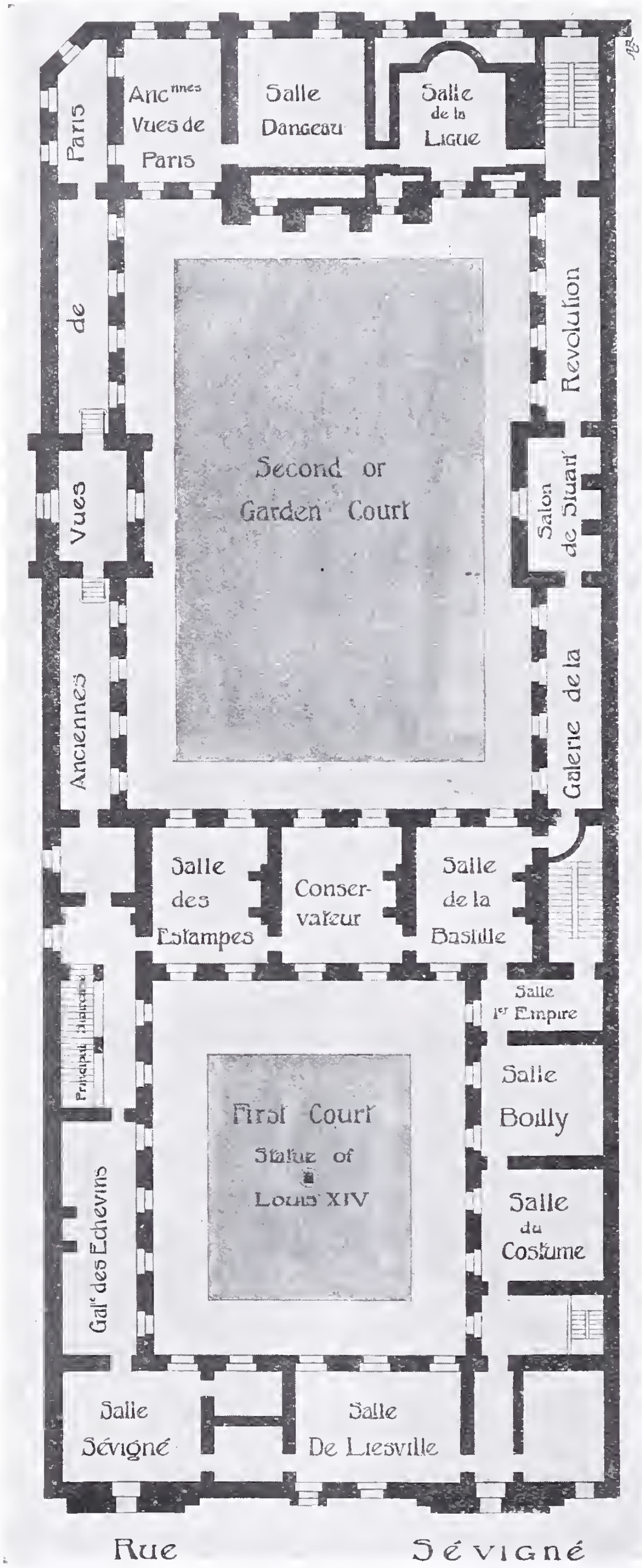


FIG. 5.—HÔTEL DE CARNAVALET : PLAN OF FIRST FLOOR.

de Carnavalet, situated at the corner of the Rue de Sévigné, where it meets the old Rue des Francs-Bourgeois.

A stately city mansion, built entirely of stone, it antedates the Place Royale by fifty or sixty years. It was designed for the Président de Ligueris by Pierre Lescot, the architect of the oldest portion of the Louvre; and another architect, De Bullant, is said to have taken some part in the work. It takes its name from an old Breton lady called De Kernevenoy, who afterwards purchased it; and under the direction of her son a wing on the left side of the court was added by Du Cerceau. Under a later owner, who afterwards let the house to Madame de Sévigné in 1677, Mansart was called in to restore the building. The outer façade he left unaltered, and, beyond the addition of some of his characteristic roofs and some minor architectural embellishments of the inner court, his restorations were carried out on conservative principles, and he did little to interfere with the original beauty of the design.

Thus three distinguished architects, whose respective careers cover the period which intervened between the reigns of Francis I. and Louis XIV., had their share in the erection and completion of this renowned residence. It now forms a home for historical relics and remains of the city of Paris, chiefly pertaining to the time of the great Revolution, and is made into a municipal museum.

The old edifice surrounds a central court. Beyond it is a formal garden, forming a second court, around which are erected reconstructions of ancient buildings, removed here and cleverly grouped and connected together. These we will return to later.

The principal exterior elevation fronts to the Rue de Sévigné. In design it consists of a slightly recessed centre, of which the gateway, or *porte-cochère*, is the principal feature, flanked on either side by pavilions crowned with mansard roofs. The ground-floor storey is plainly treated, and is solid in appearance, recalling to one's mind the defensive characteristics of the palaces of Tuscany where they abut upon the street. To this quality, together with the type of roof adopted, may be attributed the somewhat heavy effect of the building as a whole. It is, however, a dignified and well-balanced composition, and is distinctly Italian in feeling. As such, it is a contrast to the inner court, where the architecture is more French in manner, and its details of the character which we associate with the reign of Francis I.

The carved decorations of the façade, the lion panels, the lunette-shaped panel over the entrance, and the figures crowning the side pilasters, are said to be the work of the celebrated sculptor Jean Goujon, and if not actually his handiwork they are of his school. To him is also attributed the four fine carved figures of the Seasons, with their attributes in bold relief, which ornament the upper storey of the courtyard of the side opposite the entrance. The central figure of Fame decorating the keystone over the arched entrance is definitely stated by Hare to be the work of the artist himself. Fame is represented by a graceful female figure, clad in flowing robes, with one foot resting upon an antique mask.

The composition and proportions of the entrance, with its heavily-barred side windows, its rustications enriched with vermiculated work, and its carved decorations imparting lightness and grace where relief from the substantial masonry is required, are extremely skilful and well conceived.

The architecture of the inner court has already been briefly alluded to. It is lighter and more delicate than the exterior. The buildings grouped around it are two-storied, with a cornice of simple members at the eaves level, surmounted by a balustraded parapet linking them together. In the west wing, tall semicircular-headed dormers, the windows framed within pilasters and segmental pediments, rise above the cornice level and stand out in bold relief against the high-pitched roof. The windows of the stories below are of two lights each, divided up with mullions and transoms, and are enclosed within moulded architraves. The proportions of this façade are good; there is an absence of over-elaboration, and the carved figures of the Seasons between the windows on the first-floor stage give a desirable note of distinction and contribute to the general effect.

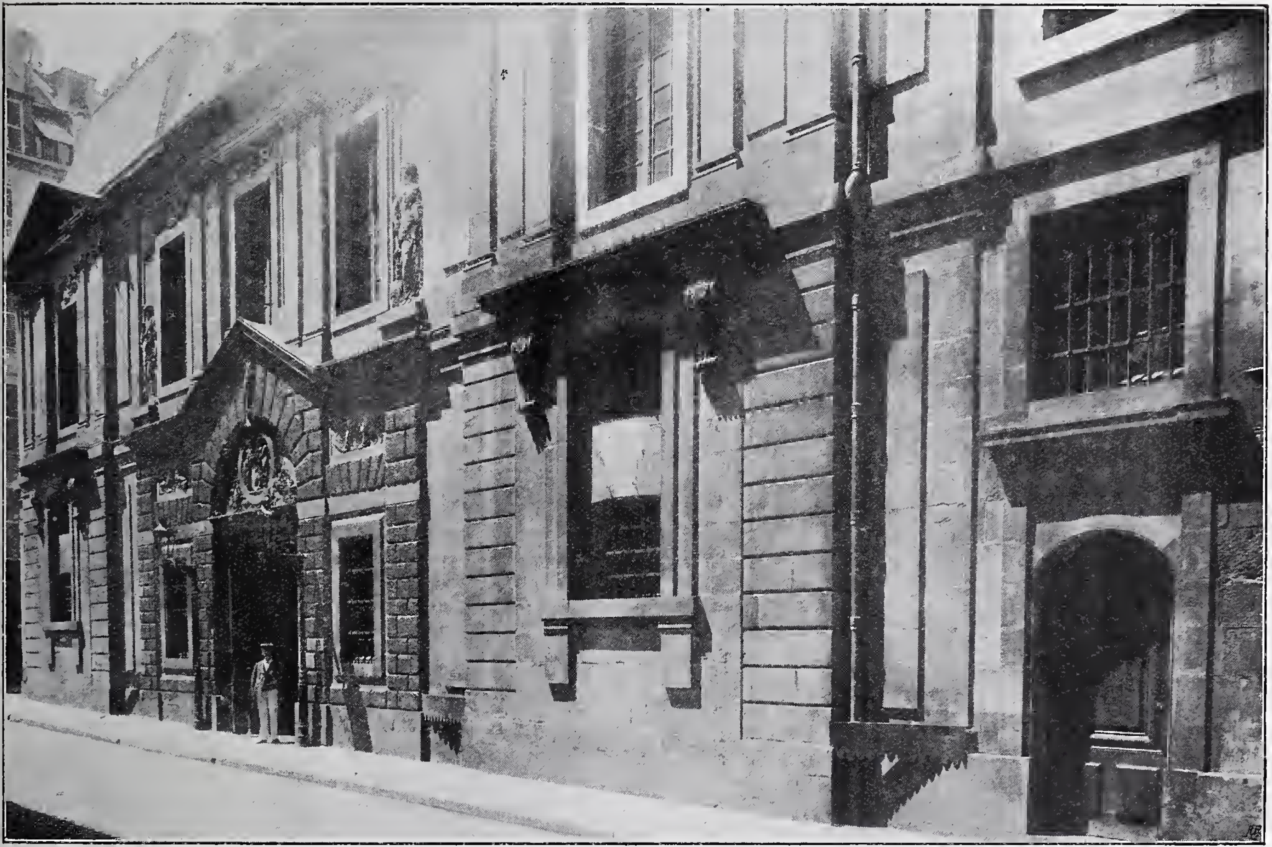


FIG. 6.—HÔTEL DE CARNAVALET: FAÇADE AND ENTRANCE, RUE DE SÉVIGNÉ, PARIS.

Doorways at the angles give access to the lateral wings, which in their characteristics vary slightly from the elevation just described. The difference is chiefly to be noted on the ground floor, where the wall surface is arcaded, and slightly projecting pilasters and archivolts divide it into bays and frame in the windows and their upper fanlights.

A bronze statue, by Antoine Coysevox, of Louis XIV.—a really fine work of art—stands on a pedestal in the centre of the court. It did not originally occupy this position, but was removed from the ruins of the Hôtel de Ville after its destruction by the Communists in 1871. A tablet on the pedestal records that the monument was erected at the Hôtel de Ville on 14th July 1689, in memory of the solemn feast given to the king on 30th January 1687.

Entering one or other of the corner doorways, and crossing an inner vestibule, the open colonnades are reached which enclose the second or garden court, around which are grouped the reconstructed fragments of ancient buildings.

It has already been said that the restoration or reconstruction has been effected in an extremely able manner. Centres on two sides are formed by pavilions from buildings of old Paris which have had to make way for modern street improvements, and a third is occupied by the rebuilt Arc de Nazareth. This celebrated archway of the sixteenth century was removed from the Palais de Justice. It dates from the time of Henry II., and his interlaced ciphers and other emblems are introduced into the carved frieze by Jean Goujon. It now forms a covered entrance to the garden from the Rue des Francs-Bourgeois, from which it is separated by a high screen of modern ironwork; and through its open interstices pleasant peeps of the greenery within are to be obtained by the passers-by.

At the western end of the garden court the central pavilion is a reconstruction of the Drapers' Guild House, which originally stood on a site near the Halles. Judging from the appearance of the masonry, the work appears to be almost entirely new; but if this is the case it bears evidence of being a faithful representation of the older building.

The ground-floor stage consists of an arcade of three arches, the order employed being the Roman Doric. A fine sculptured panel forms the central feature of the first floor. It consists of a circular cartouche bearing the arms of Paris supported by two children seated on dolphins; and on either side carved caryatides—beautifully sculptured female figures—help to carry the entablature. It is surmounted by a broken pediment, and above it, in bold relief, a seated figure, with a background powdered with the *fleur-de-lis* of France, gives interest to the attic stage.

The Pavillon de Choiseul faces the Arc de Nazareth. This fragment of the ancient Hôtel de Choiseul is an extremely interesting example of the architecture of the time of Louis XIV. The restoration has been carried out very carefully, and in the rebuilding the old masonry has been re-used wherever possible. The detached columns of the central opening on the ground floor, however, are new. A slated mansard roof, bearing aloft a tall vase-shaped finial, covers in the building.

The wall surface of the upper storey is enriched with flat pilasters with carved capitals of acanthus foliage, and an open arcade below forms a portion of the ambulatory surrounding the court. The latter also serves as a shelter for a bronze equestrian statue of Henry IV., which was saved from the ruins of the Hôtel de Ville.

The interior of the Hôtel de Carnavalet and its contents are full of interest. To attempt a detailed description of the collections housed within its walls would be an onerous task, and one quite outside the limits of this Paper. I must therefore be content with referring, in passing, merely to a few of its treasures. It has already been stated that the relics of the great Revolution give it a unique interest. Memorials of the Reign of Terror meet you at nearly every turn, and, as it were, dog your footsteps. Danton, Marat, and Robespierre gaze down upon you from the walls. Portraits of their victims—the unhappy king, Louis XVI., and Marie Antoinette, his equally unhappy queen—sketched in the latter days of their imprisonment, are pointed out by the attentive *custodiens*. A sketch by Hubert Robert—"Robert of the Ruins," as he is sometimes called—whose pictures of ancient classical architecture form one of the attractions of the Louvre, depicts the prisoners of St. Lazare trying to forget their miseries by playing ball, knowing only too well that execution is awaiting most of them.

Another sketch represents the artist himself, in his cell of the prison of Ste. Pelagie. It is washed in in colour. In the midst of his manifold anxieties his buoyant spirits did not fail him. Over the door he has set up the inscription: "Carcer Socratis, domus honoris," and on his table is the inspiring, if well-worn, motto, "Dum spiro, spero." The child of Chénier, the poet who perished on the scaffold, came in for a share of his paternal affection, and numbers of his fellow prisoners experienced the benefit of his unselfish solicitude. Happily, Robert himself escaped with his life, and for several years afterwards was permitted to pursue his favourite vocation.

Here we see the armchair used by Voltaire;—there a realistic mask of the great author in relief, coloured like life, returns your gaze in a weird and uncanny manner.

Historical relics of all kinds and descriptions abound in the numerous rooms; and sketches, pictures, sculpture, porcelain and examples of costume of Paris origin, or relating to the city, represent a period extending over the last three centuries.

Specially interesting to the architect are views of the old buildings, and designs and numerous projects for the laying out and effective architectural treatment of the public places of the city, many of them being original drawings by architects of note. In this connection may be mentioned a series of clever sketches of the barriers of Paris by Marceau in brown ink and wash; and another drawing in the same medium, the work of Carle Vernet, representing a corner of the Palais Royal in 1810, especially took my fancy.

Again, it would be a positive sin to omit a reference to the dainty and charming sketches in pencil, brown ink, and monochrome, depicting the life, manners, and customs of the eighteenth and nineteenth centuries, by the hands of the so-called "petits maîtres."

The work of St. Aubin, Gravelot, Norblin, with that of the before-mentioned Carle Vernet, calls for especial mention. What, for example, could be happier, or more gracefully rendered, than St. Aubin's impressions of the races in the Champs-Elysées and scenes in the Tuileries gardens, touched off to the very life; Norblin's drawings in crayon of somewhat similar scenes; and Vernet's spirited sketches of the promenading gallants of the day?

Mementoes of the occupancy of the most distinguished tenant of this historic house also claim attention. Here Madame de Sévigné lived from 1677 to 1698; here she spent the latter days of her widowhood; and here she wrote the well-known letters to her daughter, the Marquise de Grignan. These letters are masterpieces of language, and abound in smartness, wit, and epigram. They bear evidence of the greatest care in the selection of words with which to express her thoughts, and in their arrangements for melodious euphony of sound. By her admirers she is credited with being the author of the most

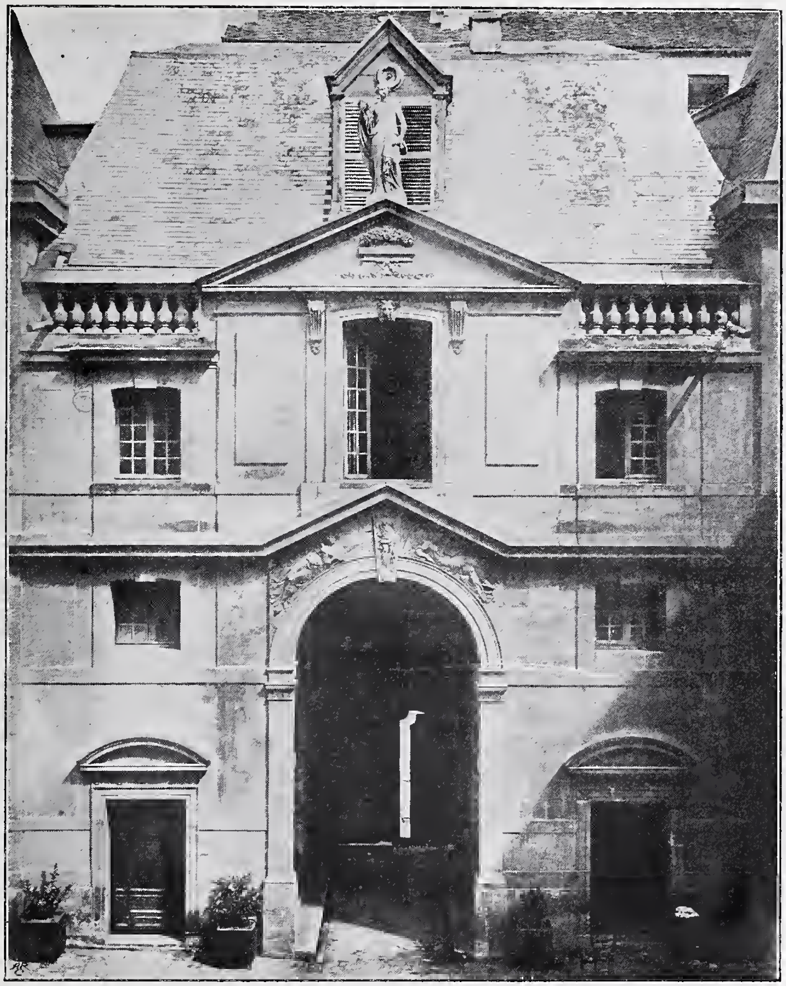


FIG. 7.—HÔTEL DE CARNAVALET: SIDE OF COURT LOOKING TOWARDS ENTRANCE.
(The statue on the pediment no longer exists.)

charming of books, when her only intention was the writing of letters. But surely this assertion must be accepted with the customary grain of salt! Read only a few of them, and it is perfectly evident that she intended them for a much larger audience than her daughter only. The relation of her animated descriptions of the doings of fashionable society, and her records of political events, when they reached the family seat of the De Grignans in the south of France, must have added an additional attraction to social reunions and assemblies of the neighbouring nobility. The letters give an epitome of the life of the period, and from their perusal one can readily picture the *vie intime* of society in the golden age of Louis XIV.

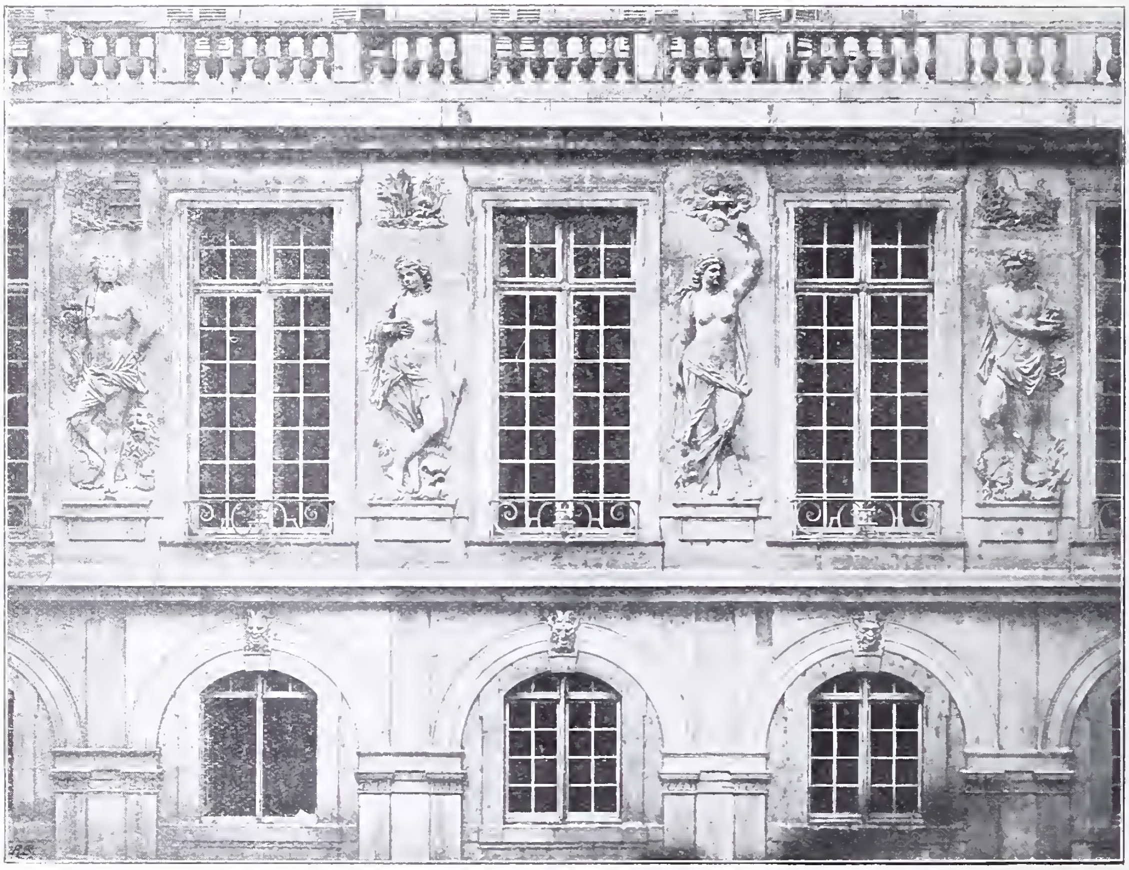


FIG. 8.—HÔTEL DE CARNAVALET: UPPER STOREY OF SIDE OF COURT, SHOWING CARVED FIGURES OF THE SCHOOL OF JEAN GOUJON.

Madame de Sévigné occupied a suite of rooms on the first floor of the main building. Her *salon* was the corner of the south-east angle of the *hôtel*, and some of its original decorations are still preserved. Portraits of the mother and daughter, copies of paintings by Mignard * hang on the walls, and a glass case encloses personal souvenirs of her residence. In the former portrait it is interesting to observe the fringe of ringlets on Madame de Sévigné's forehead, a fashion of hairdressing introduced by Henrietta Maria, Queen of Charles I. of England, and daughter of Henry IV. of France—a characteristic feature which is familiar to us in the pictures of Vandyck and Lely.

Separated from the Salle Sévigné by a small boudoir is the Salle de Liesville. It retains its fine painted panelled wainscoting and carved decorations of the Louis-XV. period. A portrait of Théroigne de Méricourt, a beauty of the Revolutionary epoch, and a leader in the troubles of the time, occupies a central position on the end wall, and is hung over a picturesque projecting carved console table, upon which is placed a bronze bust of Mirabeau. Two of the upper panels of one side of the room are filled with paintings enclosed within borders of rococo scroll work. Painted panels introduced into the upper part of the wainscoting, and more especially occupying a position over the doorways, known in France as *dessus de portes*, were much affected during the eighteenth century.

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* The original portraits are now in the Uffizi Palace, in Florence.

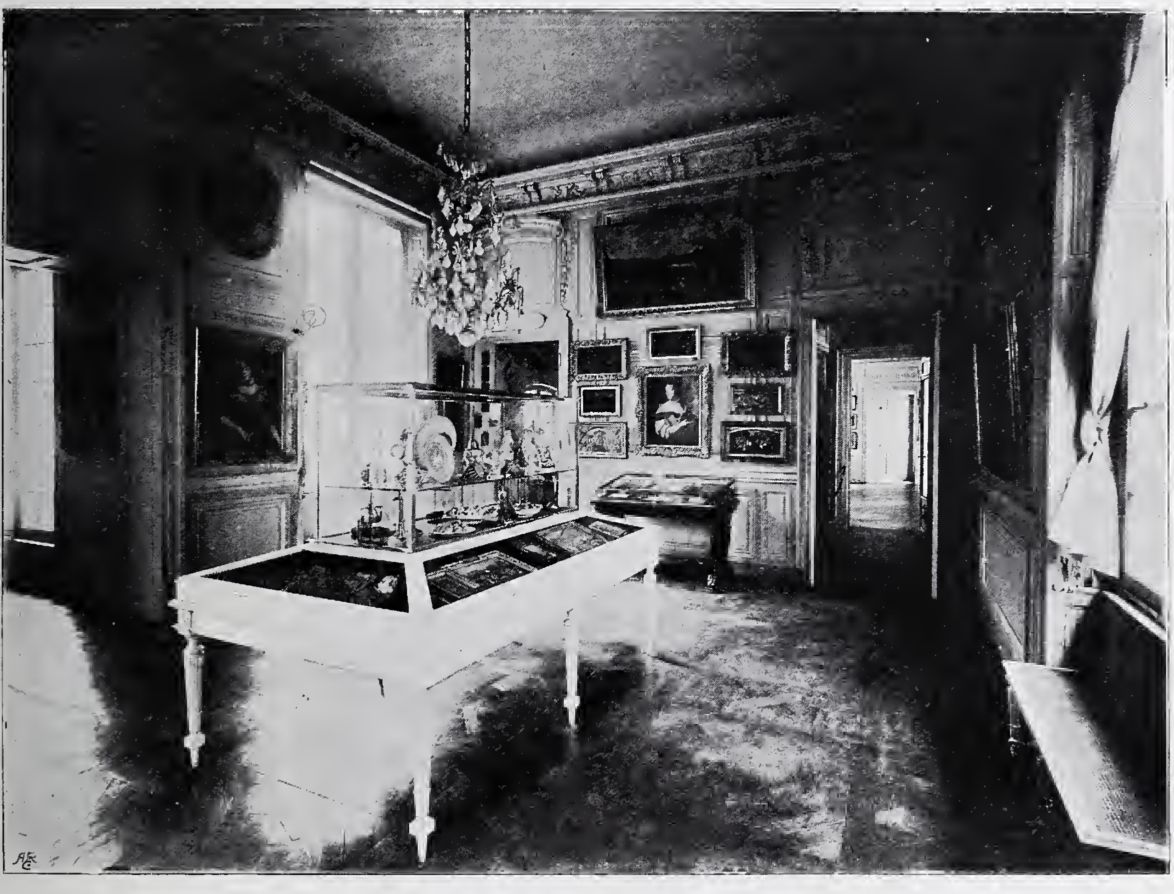

FIG. 9.—HÔTEL DE CARNAVALET : SALON OF MADAME DE SÉVIGNÉ.

Distinguished artists, including within their ranks such well-known painters as Boucher, Watteau, Pater, and Lancret, have left us beautiful examples of their craftsmanship in these decorative accessories of the interiors of the period.

Two rooms known as the Salle Debucourt and the Salle des Costumes have their walls panelled in woodwork, painted a greyish white colour of late Louis XIV. or XV. date. Some of the upper panels are decorated with carved trophies of musical instruments.

A further room, which adjoins the Salle Dangeau, has a fine painted coved ceiling attributed to Lebrun. It contains a collection of porcelain of the time of the Revolution, and the wall panels between the pilasters are hung with plates—a veritable *décoration des assiettes.*

A beautiful example of transitional Louis XIV. and XV. carved panelling in hard-wood is to be found in one of the rooms, bearing a name which has escaped my memory; it is also adorned with large mirrors enclosed in elaborately carved frames.

Before leaving the building by the grand staircase descending to the vestibule adjoining the courtyard it is necessary to pass through the Galerie des Echevins, so called from the pictures it contains of the sheriffs of Paris, painted by Largillière. This room was originally used as an ante-chamber to the apartment occupied by Madame de Sévigné, whose drawing-room it adjoins.

We have now made a brief, and, it must be confessed, an incomplete survey of the Hôtel de Carnavalet, and space does not admit of any further description of this historical house and its contents; but probably sufficient has been said to give some little idea of its attractions, and to commend it to the attention of students and others who may not yet have paid it a visit.

Further researches in the neighbourhood will reveal many other architectural relics of the seventeenth and eighteenth centuries, defaced and modernised, it may be true, but still retaining traces of their former magnificence, and bearing the names of notable men who in their generation have served their country and contributed to the fame of France.*

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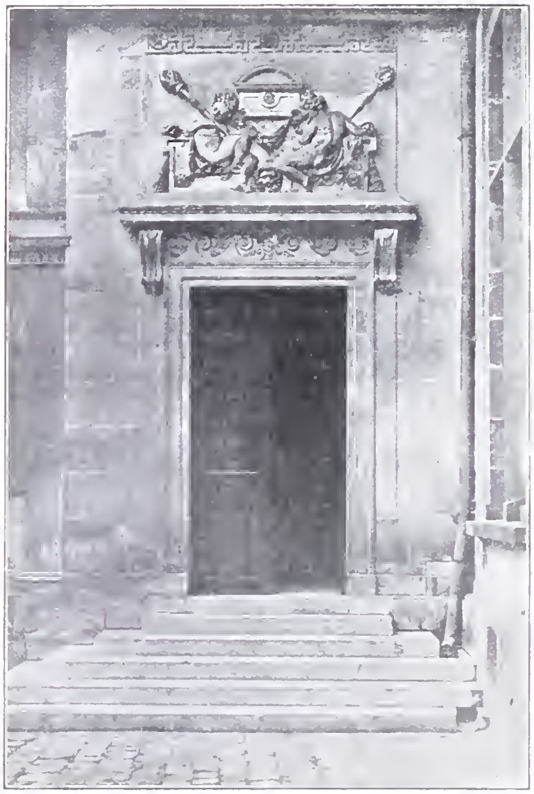
* My acknowledgments are due to Mr. Arthur Vye-Parminter, architect, of Paris, and to M. Cain, the curator of the Musée Carnavalet, for information kindly given to me in the preparation of this Paper; also to M. Emonts, Rue du Four, Paris, for the use of his photographs of the Hôtel de Carnavalet for illustration purposes.



ENTRANCE TO MUSEUM, HÔTEL DE CARNAVALET.

INCORP
1837
1887

9, Conduit Street, London, W., *8th March* 1902.

CHRONICLE.

PRIZES AND STUDENTSHIPS.

The Arthur Cates Prize.

The pamphlet giving the subjects set for the next competition for the Prizes and Studentships in the gift of the Royal Institute is issued to members with the present number of the Journal. It will be seen that a fresh prize has been added to the list—viz. the Arthur Cates Prize, value Forty Guineas, open under certain conditions to British subjects who have passed the R.I.B.A. Final Examination. Provision for the Prize was afforded by the late Mr. Arthur Cates, who bequeathed to the Institute £1,500, to be applied towards the provision of a prize to be awarded yearly for the promotion of the study of architecture, "more especially in relation to the application of Geometry to vaulting, stability of edifice, and design, coupled with actual measurement and delineation, both geometrical and pictorial, of appropriate examples in Great Britain and foreign countries, it being made a condition that such prize shall be awarded in connection with some examination in Architecture held under the authority of the Charter of the said Institute, and that the recipient thereof shall have previously passed the Final Examination of the said Institute in one examination only."

Competitors are required to submit the following drawings:—

1. The original "Testimonies of Study" which procured them admission to the Final Examination, provided that such Testimonies have been certified by the Board of Examiners as of sufficient excellence to be admitted into the competition.

2. Not less than three sheets comprising studies of subjects of Classical or Renaissance, and of Mediæval Architecture, accurately drawn in perspective and shaded by rule, and also detailed studies of a groined vault of any period between A.D. 1100 and 1500.

Competitors who have passed the Final in 1901 or 1902 will be eligible for the Arthur Cates Prize 1903. The drawings must be delivered at the Institute, in accordance with the General Conditions, on or before 23rd December 1902.

The Godwin Bursary.

The Council have increased the value of the Godwin Bursary for 1903 from Forty Pounds to Sixty-five Pounds.

British Exploration in Crete.

The Council have had under consideration the following letter from Sir W. B. Richmond, K.C.B., R.A. [*H.A.*], on behalf of the Cretan Exploration Fund, of which Sir William is Hon. Treasurer:—

Beavor Lodge, Hammersmith.
7th February 1902.

Dear Sir,—The members of the Institute are doubtless aware of the great importance to Art, Archæology, and History of the excavations being carried on in Crete.

Money is badly wanted; the unselfishness of Mr. Evans, who is conducting the excavations, deserves recognition, and that recognition could be best given by adding to his funds, which, if they are not increased, will prove to be quite inadequate to provide for the termination or indeed the carrying on of the great work.

It has struck me that the Institute might make a grant of money, which would indeed be a great and generous act.

If you consider this suggestion and put it before the Institute, I will see that you are furnished with all particulars.—Yours very truly,

W. B. Richmond.

The Secretary R.I.B.A.

The Council, recognising the value and importance of the work Mr. Evans is engaged in, have voted the sum of fifty guineas in aid of its continued prosecution.

Mr. Arthur Evans's remarkable discoveries on the site of Kephala at Knossos are already well known from the accounts published at intervals in *The Times*. A description of these and other excavations aided by the Cretan Exploration Fund accompanied Sir William Richmond's appeal, and furnishes material for a brief record of them in the Journal.

Mr. Evans's excavations, begun in 1900, brought to light the ancient palace which there is every reason to identify with the traditional House of Minos and with the legendary "Labyrinth." The first season's work unearthed a considerable part of the western side of this great building, including two large courts, the porticoes and entrance corridors, a vast system of magazines containing huge stone jars, and a richly adorned room, where between lower benches rose a curiously carved gypsum throne, on which King Minos himself may have sat in council. In the second season was uncovered more of the western court, and the continued lines of the south-west angle of the building, a further series of magazines stored with huge jars, the whole northern end of the palace, including a bath chamber, a great central court, and an extensive eastern quarter. Last year's excavations disclosed, too, what appear to have been the principal state-rooms. A triple flight of stone stairs, one flight beneath another, here leads down from an upper corridor to a suite of halls, showing remains of colonnades and galleries.

Apart from the architectural results, the finds within the palace walls throw an entirely new light on the art and culture of prehistoric Greece. Partly still clinging to the walls, partly on the floors of the chambers, were found the remains of a whole series of fresco paintings. Among these the full-length figure of the Cup-bearer supplies the first real portrayal of a man of the Mycenæan age, while miniature groups representing Court ladies show a liveliness and expression far beyond any work of the kind in contemporary Egypt. Another represents a bull-catching scene, in which females take part. There are painted reliefs in *gesso duro*, showing a force and naturalism for which no parallel can be found till the great days of Greek sculpture some ten centuries later. The muscles and even the veins of human figures are reproduced with singular mastery of execution.

The marble mouth of a fountain in the shape of a lioness's head and a triton shell of alabaster, together with many other beautiful stone vessels and architectural ornaments, evidence the high level attained in sculpture. Examples have been found of miniature painting, crystal gem engraving, and intarsia work. Other finds illustrate the connections with ancient Egypt and the East. Part of a small diorite statue bears a hieroglyphic inscription fixing its date about the beginning of the Second Millennium B.C., and an alabaster lid bears the cartouche of the Hyksos King Khyan. A fine cylinder of *lapis lazuli*, mounted with gold and engraved with mythological subjects, bears witness to the early connection with Babylonia.

Beneath the level of the palace itself have come to light the remains of a vast settlement of Neolithic date, the exploration of which has produced a variety of interesting evidence bearing on the remote regions of Ægean civilisation. This is the first Stone Age settlement explored in the Greek lands.

Evidence is here for the first time afforded that there existed on the soil of prehistoric Hellas a highly developed system of writing some eight centuries earlier than the first written Greek monuments, and going back six or seven centuries even before the first dated record of the Phœnician script. Deposits of clay tablets have been discovered, engraved with a linear script, often accompanied by a decimal system of numeration.

In addition to the assistance given to Mr. Evans in his work at Knossos, the Cretan Exploration Fund has contributed towards various works of exploration in the island under the auspices of the British School at Athens. In 1899 Mr. D. G. Hogarth, late Director of the School, excavated a series of prehistoric houses in the lower town of Knossos. Here were found painted vases, showing that a highly developed ceramic art flourished there before the days of Mycenæan civilisation. Mr. Hogarth also successfully explored the great cave of Zeus on Mount Dicta, discovering remains of a prehistoric sanctuary and large deposits of votive bronze figures and other objects, among which the double axe, the symbol of the Cretan and Carian Zeus, was specially conspicuous.

Last year Mr. R. C. Bosanquet, the present Director of the British School, explored the site of Præsos, in the easternmost region of Crete. Among his discoveries were two sanctuaries with votive deposits, and the remains of a large public building of Hellenistic date.

Mr. Hogarth was also enabled by a grant from the Fund to explore an ancient site at Zakro, in the extreme east of the island. The excavations revealed a small Mycenæan town, with well-preserved remains of brick houses and magazines full of earthenware and bronze objects. Not the least important discovery was a deposit of clay impressions of Mycenæan gems and signets containing 150 types, some of them throwing a new light on the early cult of Crete.

Other interesting sites remain to be explored, but before devoting any sums towards breaking new ground, the Executive Committee are endeavouring to raise sufficient funds to enable Mr. Evans to complete his excavation of the Palace of Knossos, a considerable part of the cost of which has already fallen on his shoulders. The work is necessarily costly, owing to the number of workmen employed and the steps that have to be taken to conserve the discovered remains. It is estimated that, apart from the heavy arrears on last season's work, between one and two thousand pounds will be necessary for the adequate completion of this important work alone.

Mr. Evans, it will be remembered, was unable for reasons of health to read the Paper on "The Palace of Knossos in Crete" as arranged for the General Meeting of the 16th December last. The event, happily, is only deferred, and members may look forward to hearing next Session the results of the distinguished explorer's labours from his own lips.

Prior to addressing the Meeting last Monday on the subject of Coal Smoke Abatement, Sir William Richmond asked permission to offer his sincere thanks to the Council of the Institute for the generous donation they had accorded to the excavations in Crete. As Honorary Treasurer of the Cretan Exploration Fund, he said he might do that upon his own responsibility. This very generous advance towards the promotion of one of the most historically interesting things that had been discovered in our time ought to be an impetus to other societies to subscribe a like sum.

The late Mr. J. F. Bentley.

The Special General Meeting announced for Monday, the 3rd inst., was convened in accordance with by-law for the purpose of electing the Royal Gold Medallist for the current year. The nomination of Mr. John Francis Bentley for the honour had been received with universal approval, and the Council's choice only required the formal ratification of the General Body by his election as Royal Gold Medallist at the meeting last Monday. Mr. Bentley died suddenly and unexpectedly on the previous day, and at the meeting in question the President announced the sad event in the following terms: I think I have to announce the saddest thing that has occurred in the annals of the Institute. Our Council nominated Mr. Bentley as Gold Medallist for this year. On Saturday last Mr. Bentley was seized with a paralytic stroke, and he died yesterday morning. Had it not been for that, I have not the slightest doubt he would have been to-day elected the Royal Gold Medallist. This distressing occurrence puts the Council in a peculiar position. The Royal Gold Medal for Architecture is the King's own gift, and we cannot say what His Majesty's views would be in regard to awarding the Medal to a gentleman who had passed away only the day before. Therefore the Council have this afternoon decided to let the matter stand over while they apply to the King to learn what His Majesty's pleasure may be. Should His Majesty still be willing to let the Medal go to the family of Mr. Bentley, in honour of the work which Mr. Bentley has done, his name would come up for election at the next meeting. Mr. Bentley you all knew, and it seems scarcely worth while to go into a long list of the works he carried out; but for the benefit of those who may not be acquainted with them I may mention that he had been engaged on the Brooklyn Cathedral, New York, a large Gothic Roman Catholic cathedral. As you are all aware, he had been engaged too upon the Roman Catholic Cathedral in the neighbourhood of Victoria Street, which was visited by the Architectural Congress the year before last. Other churches and edifices built by him, or for the decoration of which he had been largely responsible, were St. Mary's, Cadogan Square, Chelsea; the Church of the Holy Rood, Watford; St. Mark's, North Audley Street; the Seminary, Hammersmith; and the Church of Corpus Christi, Brixton. He also restored the church of St. Botolph, Bishopsgate. We know Mr. Bentley's work perfectly well, even although we may not know all his buildings. There was no architect of more refinement and appreciation of correct detail in church architecture than the late Mr. Bentley. I am quite sure we all deplore the loss to the profession as much as if he had been a member of this Institute, which I am sorry to say he was not. I think that as a member of our great profession it would be quite fitting that this Institute, acknowledging his greatness as an architect, should send a letter of condolence to his widow and family.

A wreath was sent by the Institute on the occasion of the funeral, and the Secretary attended officially at the funeral ceremony which took place at St. Mary's, Clapham.

National Photographic Records.

Since Monday members have been afforded an opportunity, by the favour of the National Photographic Record Association, of inspecting in the Meeting-room an extremely interesting collection of about a hundred photographs of architectural work got together by the Association, and now about to be deposited in the British Museum. The Association, the aims and objects of which were described in the JOURNAL for 6th November 1897, soon after its formation, was organised with the object of collecting photographic records of objects and scenes of interest throughout the British Isles, with a view to depositing them in the British Museum, where they may be safely stored and be accessible to the public. A good part of the collection on view at the Institute was the work of the distinguished President of the Society, Sir Benjamin Stone, M.P., an enthusiastic photographer who admits to having photographed most parts of the world from China to Peru.

Sir BENJAMIN STONE was present at the General Meeting of the Institute on Monday, and addressed the assembly on the subject of the work of his Association. It had been suggested, he said, through some mutual friends, that a series of photographs that were on their way to the British Museum might be stopped for a few days and exhibited at the Institute, with the idea of showing that the preservation of such records was a very deserving thing to be done throughout the country. Architects, associated as they were with so many beautiful things and so many historical matters in connection with their work, must know and feel that any encouragement in that direction was commendable. He himself had ventured upon the work rather as an example to other people. He had done a little towards preserving current records, but what one person could do was so small an amount that it behoved everyone who approved of the work to commend it in all directions. It was a common idea that, because everybody had kodaks and cameras in one form or another, there was a great deal of good and useful work being done that might be valuable at some future time. There was, however, no greater mistake. He had found out that people who took the trouble to do good work neither registered it nor kept a list of what they had done, and when death occurred no one knew what the subjects were that had been collected. That was a very common proceeding. Besides that, there were the wasteful photographers on every hand, who took things and kept them—why, they did not know: they knew nothing at all about them—it was simply a waste of power, money, and time. Sensible people, at any rate, might be urged to keep an historical record of some of the bits they had taken which were instructive and interesting. He was glad to say that, through Mr. Scamell, the Hon. Secretary, and Mr. Alexander Graham, the Hon. Treasurer of the Society—and others, they had succeeded in impressing the public with the importance of the work, and in different parts of the country, in Birmingham, in Warwickshire, and a number of other counties, some really good and useful collections were being got together and preserved. That kind of work should be extended everywhere. What enormous sums of money we would give for records of the kind of past ages! Our own history of the moment was built up on things of the kind that were absolutely lost to us. How valuable an ordinary drawing or sketch is of ten centuries ago—how we prize it and what we think of it for the habits of the people, the kind of buildings, customs, and history generally! Therefore one could appreciate the possibilities of making collections such as these. He would not dwell on the matter: sufficient for him to say how gratified he was to be allowed to address the Institute that evening on the subject. He knew he was appealing to kindred spirits in every possible way, and, if they saw possibilities for urging that such things should be done, they might depend upon it that they were doing a very good work—perhaps a very disinterested work, but one that would be appreciated by generations in the future.

Mr. ALEXANDER GRAHAM, F.S.A., Hon. Treasurer of the Society, said he had come not as a treasurer, for their requirements were small, and they managed to do what they had to do with very little money. He came rather as an enthusiast of the Society and as an admirer of the work of Sir Benjamin Stone and those who co-operated with him in a very laudable object. Anybody who looked round the room and saw the photographs exhibited there would see that the Photographic Record Association was working on right lines. The works now exhibited were simply architectural records, but they had records of all sorts of interesting things. To the British Museum they sent photographic records of old village customs still prevailing in different parts of the country. Sir Benjamin Stone himself had sent photographs of processions and various other local functions that the average public knew very little about, and which would in course of time become obsolete. These now became records, and showed the life of the people of this period. The public, therefore, were very much indebted to the Association for the active and useful work they were doing. Mr. Scamell, the Hon. Secretary of the Association, had kindly promised to attend the meeting of the Architectural Association to be held in that room next Friday, and he would explain in a few words the objects of the Society, and, in view of so many of the members of the Institute being photographers themselves, how the photographs they took might be made permanently available for the public good. It was with very great pleasure that he proposed a vote of thanks to Sir Benjamin Stone for so kindly coming among them that evening, and also to the Association for giving the Institute an opportunity of inspecting so interesting a collection of photographs.

Mr. E. W. HUDSON [*A.*], in supporting the vote of thanks, said that Sir Benjamin Stone had spoken with great modesty of his own work, and the photographs exhibited were, he believed, entirely confined to Great Britain. Sir Benjamin, however, was known to have made some most valuable and interesting photographs of Malta, which were to be seen in the library of the Order of St. John of Jerusalem in Clerkenwell. The works represented were apparently of Phœnician origin, and threw great light upon the work in Malta at that period. He should like to ask Sir Benjamin how far his work had extended beyond that island. He should also like to ask the Chairman whether members would have an opportunity the next day or later of inspecting the collection of photographs now exhibited, before their removal to the British Museum.

The SECRETARY stated that the photographs would remain on exhibition until Saturday morning.

Sir BENJAMIN STONE said that Mr. Hudson's question opened up a train of thought that he would very gladly make an address upon, because he had photographed most parts of the world, from China to Peru; but the particular photographs referred to must have a considerable interest to members of the Institute. Some twenty-four years ago there had been unearthed at Malta that great Phœnician temple which was known as the Malta Temple and was of extraordinary interest. It was found not only undisturbed, but the altars and figures—which he would call "gods" for the moment—were all in position. It attracted him so much that he went to Malta to photograph it; and he photographed Stonehenge upon the same scale and in the same kind of work, so as to see what resemblance one bore to the other; and, without being dogmatic or even venturing upon the larger question of what Stonehenge meant, he was pretty certain that the date of Stonehenge might be approximately fixed at the time of the megalithic buildings in Malta; and, moreover, he was strongly of opinion that the Malta Temple would give a clue to what Stonehenge had been in the past. For instance, the great stones upon the trilithon principle in the Malta Temple had been filled up with smaller stones, and the other arrangements which one would understand from a temple of that kind enabled one to fill in from imagination Stonehenge exactly; and his photographs side by side were the most interesting comparison that could possibly be made. He was talking with Sir Norman Lockyer a few days ago upon the same subject. Sir Norman Lockyer had arrived by his calculations at a certain date for the buildings on Stonehenge. He (the speaker) had arrived at the same period, within a few hundred years, as Sir Norman Lockyer had, by a totally different process of deduction. For instance, the great colonists of Tyre and Sidon had fixed upon Malta as a colony. They had introduced megalithic buildings there at a particular date, which was known. The consequence was, if they put those particular buildings side by side—the skeleton, he might call it, of Stonehenge and the Malta Temple as represented—they would get a clear clue to the age and probable uses of the temple.

The President having expressed the thanks of the Meeting for these further remarks of Sir Benjamin Stone's, the vote of thanks was put from the Chair and carried by acclamation.

Coal Smoke Abatement.

Sir William Richmond, K.C.B., R.A., in bringing forward at last Monday's meeting the Resolution standing against his name in the notice-paper, addressed the Meeting as follows:—

I think it excellent brotherhood that the distinguished architects present this evening should have so generously acceded to a request of mine that they will, being a powerful body, enter with me and my colleagues, not only with sympathy, but I hope also with activity, into a cause which must appeal to them as artists, both on account of the love they bear towards their predecessors' work in that noble and ancient art of architecture, and to protect their own. If there are means by which the dismal smoke of London may be dispelled, even modified—and doubtless there are—you, gentlemen, for the very reason of your far-reaching influence as constructors, are the men best fitted of all others to promote cleaner cities. You will hear to-day, what you already know in part no doubt, from Professor Church, of the irreparable damage caused by the deposit of ashes contained within soot to irreplaceable works of art in architecture. You would have heard, had Sir William Thiselton Dyer been able to be here—unfortunately he is not—of the damage done to the National Gardens at Kew by the smoke from factories in close vicinity. You would have heard from him, and I can tell you the truth, of his fruitless, though earnest appeals to the First Commissioner of Works to execute his prerogative and force the manufacturers of Brentford, who are all parish councillors, to prosecute one another, and, like honourable men, to accept and exercise the duties conferred upon them by their constituents. Now, gentlemen, that Sir Thiselton Dyer is not here, I can tell you in a very few words what he told me years ago. Some ten years ago there was a smoke fog which lasted, I think, for two weeks. I happened to be talking to him shortly after that at the Athenæum, and he said: "It is very curious you should allude to this, because," he said, "I had the residuum of that smoke fog weighed. We had to scrape it off the glass—we could not wash it off; and how much do you think it weighed when it was all scraped off?" My imagination did not reach to those higher points. He said: "I may tell you it weighed six tons"—when scraped off the glass, which covers an area of about a mile. At this moment the question in point is this: Quite one quarter of Kew Gardens is being irreparably damaged by the smoke from Brentford. That is a place that we as members of the Smoke Abatement Society are going to tackle. We have made representations to the First Commissioner of Works without avail, but there is a rift in the clouds. I must not tell you details, but it is possible that the First Commissioner of Works will intervene. In the East End of London—that part of it extending practically from London Bridge to the Nore—along both sides of the river, and stretching far on either side, thousands of factory chimneys are belching forth black smoke day and night, their owners defying that clause in the Act of 1891 by which such breaches of obedience can be restrained by every local authority. Our Society has used every endeavour to press local authorities to enforce that clause in the Act, thinking that it was wiser to start our crusade under a law which was already in existence than to try and make a new law for ourselves, and we have succeeded in a great many cases—in fact, in the majority of cases—with one inspector and an assistant, in gathering together a larger amount of fines on account of the infringement of the law than the County Council and all the Borough Councils together. We have succeeded in all cases brought into court, and now public opinion is being aroused, and the people are beginning at last to say, "Let us really be rid of this nuisance." Borough Councils and Parish Councils, as well as the London County Council, and the Local Government Board, are beginning to whisper among themselves, "It will not do for us to wink at the law very much longer." It is not so much in the matter of factories that the Royal

Institute of British Architects can help the cause, although by giving us moral support they can do so, because the community at large will doubtless think more of our Society, which has enrolled within its ranks a body of men so distinguished as yourselves, men who are carrying out an art which is not only in itself essentially beautiful, but which is essential. Therefore, in this sense, by the enlistment of you into our army of crusaders will be given to us great moral benefit. The other, if I may say so, almost limitless service that you can render the cause will be by promoting the idea among your clients that there is not the slightest reason why their most desirable open fires—the winter suns of England I always call them—should, while benignly warming their houses, darken the outside air and render the atmosphere of London not only unhealthy and unpalatable but conspicuously ugly and destructive. I believe I am right in saying that the habit is becoming more general for people to live in flats, and probably, I should imagine, will become more or less customary as land gets more valuable in large towns. It is no use imagining that the open fire will ever be got rid of. The Englishman is a shy creature. Officials gain courage when they are about to receive a deputation by warming their backs and opening their coat-tails before the deputation arrives. So what we have to do is to provide the shy official with this necessary stimulus to his courage without making smoke. The architects who are responsible for public buildings, should they not insist upon some methods of warming these institutions other than by the expensive and wasteful methods almost universally in vogue? It can hardly be expected that people will be persuaded to burn nothing but anthracite coal, the adoption of which would no doubt be one means of getting rid of the nuisance of smoke almost entirely. The idea of anthracite ever being universally used must, I think, be dismissed. What has to be provided is a smokeless grate, and then that all architects should feel themselves bound to insist upon their clients adopting it. In blocks of buildings for the use of the poorer portion of the community hot air might be laid on from one heat-generating station, and the poor should be encouraged to cook by gas fires. Of course, the individualism of the poor is very remarkable and very natural, and there is something fine in its independence. But it is to be questioned whether such individualism, which engenders want and improvidence, is for their happiness. How much more cheaply and better they could live if they were content to partake in common! and although you, as architects, have no more power than anyone else to dictate to the poor how they are to live, you have the power of recommending to such bodies as the County Council, Parish Councils, and others who construct workmen's dwellings that heat can be produced throughout a large area of building just as gas and water can. Why should there not be a heat rate as well as a gas and water rate? Of course, these are only suggestions, and it is quite possible that there are many in this room who have thought exactly the same thing as I have [illegible]. My remarks are only intended to be suggestive, because the real interest of this Meeting will be in the discussion. I am quite certain that everyone here to-night is just as much in earnest as I am, and as members of my Coal Smoke Abatement Society are, in the desire to protect works of art from destruction, to promote the cause of health and happiness, and to do individually as well as collectively what lies within their power to make the city that we all love so well more beautiful and more desirable as a place of habitation for the poor as well as for the rich. I hope we shall not separate to-night without coming together as brothers in a very great cause, which has at the root of it not only the æsthetic but the ethical influence which light, order, cleanliness, and beauty go to promote. The resolution I have to put is: That in view of a resolution of the Coal Smoke Abatement Society seeking the co-operation of the Institute, members are invited to join the Society, or that such other assistance be given by the Institute as the Council may deem desirable.

Mr. JOHN SLATER, *Vice-President*, in seconding the resolution before the Meeting, said that it must be evident to any architect practising in London that the difficulty is not so much the factories, which are under control, but the house grates in the smaller buildings. To a large extent the difficulty is one of expense. In building a block of flats, it might be easy for the architect to adopt one system of heating, which would result in a very small amount of smoke; but with the large number of buildings put up, unless one had some power to control the speculative builder, and force him to do his best to diminish the smoke curse which assailed the city, he was afraid very little could be done. He was quite sure that if by joining Sir William Richmond's Society, and doing all they could to support and to help and foster its efforts, they could do any good, the majority of members of the Institute would be only too pleased to do so.

PROFESSOR A. H. CHURCH, D.Sc., F.R.S., said he had been asked to say a few words upon the chemical aspect of the question. They probably all knew the outlines of the chemistry of fog and smoke, and of the London atmosphere. He should like, however, to define it by making a few observations with regard to the chief constituents of that fog, and of the London atmosphere. In the imperfect products of the combustion of coal and coke, of gas and of anthracite—when that combustion is imperfect—we have not only carbon or soot, but also tarry matters.

We have sulphurous acid, which rapidly passes into sulphuric acid, and also a considerable quantity of ammonia, and of what chemists call compound ammonias. These products which escape by the chimneys of our houses and factories are partitioned in different ways. If it were not for the solid particles, of carbon the imperfect burning of coal would do much less harm; but it is these solid particles, which gather to themselves the moisture, the acids, and the ammonia compounds, and then become deposited upon our buildings, upon our plants, upon our skylights, upon our streets, which do us so great an injury. Not only do they darken the atmosphere and soil the buildings, but they bring their active chemical ingredients into close contact with the stone. The rain itself, it may be said, will do that, but it is not always raining, while we have the smoke almost always with us. The rain, it is true, "scrubs" this atmosphere, as the manufacturer of gas says, passes through it, takes up the sulphuric acid and other things, and carries them principally straight down on to the flat surface of the pavement, or the road, or the skylight, and to a great extent does not cause them to act upon the vertical surfaces of our buildings. But the soot lodges everywhere. The soot comes laden with its impurities and attacks the stone. On the occasion of a recent meeting of the Smoke Abatement Society, he (Professor Church) showed that extraordinary piece of incrustation from the plinth above the colonnade of the dome of St. Paul's—not half an inch or an inch, but in some places three inches in depth. It contained only one per cent. of carbon, but a half per cent. of tarry matters and a quarter per cent. of the ammonia compounds which are so peculiarly deleterious to vegetation, and which had done so much damage at Kew and in the neighbourhood of London. Whenever a north-east wind blows, these substances are carried in the direction of Kew and deposited to the injury of vegetation and to the darkening, to a great extent, of the large area of glass in the Royal Gardens. A great improvement had taken place—not, alas! in smoke-consuming grates for domestic use, for there still remained a good deal to be done in that direction, but in the mechanical washing of coal at the collieries. The enormous quantity of sulphur removed in the form of iron pyrites and other compounds by this process of mechanical washing, which would, no doubt, be adopted in most large collieries, had got rid of, perhaps, a third of the amount of sulphur in the washed coal. There still remained unfortunately in the coal a quantity of sulphur which no washing will remove even if absolutely perfect—that is, the sulphur in organic combination with the carbon, hydrogen, and oxygen of the coal. That is part of the essential composition of the coal, part of the materials which make up the bulk of the fuel itself, and that sulphur no cleansing operation could get rid of; so we shall always have the sulphurous acid and the sulphuric acid, however perfect our grates may be, and however perfect the combustion of the products may be. With regard to another matter touched upon by Sir William Richmond, for twenty-one years he (Professor Church) in his own house had used nothing but anthracite in firebrick grates, and he had found it not any more expensive than the ordinary bituminous house coal, and he had had no difficulty in lighting it, either by means of jets of gas or even with the use of wood with a very small quantity of this enemy of art—common bituminous coal; but at the same time he was bound to confess that it was impracticable to suppose that we should be able to use nothing but anthracite, and in view of that most certain fact, further improvements in smoke-consuming or non-smoke-producing grates were greatly to be desired. He wished to thank Sir William Richmond for the very clear way in which he had brought this resolution before the Institute. He had listened to his remarks with great pleasure and with cordial approval.

Dr. Des Vœux said he had taken some little interest in this question of abatement of smoke from private houses. It was a large subject to tackle, and a very difficult one to a man who had no architectural or engineering knowledge, but Mr. Bryan Donkin, a member of the Coal Smoke Abatement Society, who was equally interested in the abatement of smoke from factories, kindly consented to assist him in the matter. They began with the proposition that the Englishman would stick to his open fire and burn dirty coal. He had tried over and over again to get his friends to burn anthracite, coke, or gas, but they all had some reason against it—either they could not get it, it was too expensive, gas burned away too much, or it smelt, or dried the air. Therefore they had to start with the proposition, could smoke be diminished from an open grate burning an ordinary coal? To test that question they had to go rather more deeply into it than at first appeared probable. In the first place they had to get a chimney, and secondly, a chimney that they could pull about, take out the grate that was in it, and put other grates in. Then they had to get a room facing the top of that chimney so that they could measure the amount of smoke coming from the chimney. It seemed absolutely impossible to get the circumstances necessary to test these grates. But through the kindness of Lord Esher, Secretary of H.M. Board of Works, they were offered two rooms in H.M. office in Westminster, exactly what they wanted—an ordinary sitting-room about 16 feet square and an observation-room opposite. In that room, when they first went, there was a fireplace very similar to the one in the Institute Meeting-room—very similar to it, he was ashamed to say! Let that be their first lesson! That fireplace they took as their standard. That fireplace burnt a very large amount of coal and caused a very large amount of smoke. It was tested for three days of eight hours, and the results of the test showed that it was a wasteful grate and a smoky grate, but that its heat production was fairly good. The records of those were all kept, and were in process of being published. He thought they would be published next week. In order to go fully into the matter, they advertised in two of the daily papers for so-called smoke-abating grates. As a result of the advertisement they got five other grates to test which were claimed to be smoke-abating, and he was glad to say that certainly out of those grates four of them did diminish the smoke to an enormous extent, and one of them was very nearly a smokeless grate—in fact, he might say, almost perfection. It gave an enormous amount of heat—15 or 20 per cent. greater heat than any other grate—and it burned 25 per cent. less coal than the next best. Compared with their Meeting-room grate, it burned 50 per cent. less coal, gave 20 per cent. more heat, and emitted at least 35 per cent. less smoke. The result of these tests would shortly come out in the *Lancet*. It was difficult to publish, owing to the enormous number of figures. The temperatures were taken in various parts of the room every half hour for eight hours, the amount of coal put on was weighed, the number of times the fire was stoked recorded, the amount of unburnt coal at the end of the eight hours, the amount of ashes; so that every fact of the least importance was recorded and kept for publication. As far as he knew, this was the first prolonged systematic examination of these grates to find out whether there was any real good in trying to diminish the amount of smoke from domestic fires, and the results were extremely encouraging. What was wanted in London was some central board which would take up this matter, test domestic grates, and select a certain standard of grate, and lay it down that that grate or some similar standard was the grate which must be used, and for the future no grate that emitted a larger amount of smoke than these standard grates must be put in any private house. That, however, only touched the question of smoke from sitting-rooms. He had not gone into or tested in any way the smoke from the other part of the house—viz. the kitchen grate—but he had overcome the smoke from the kitchen grate entirely in his own house. He had been in his present house four and a half years and never had his kitchen chimney swept yet. That showed there was not very much smoke in his kitchen. He had got over it entirely through cooking by gas. It was a very practical way, and he knew exactly what it cost him, which was a very important question. In deciding to cook by gas he was confronted with the difficulty of the hot water supply, and he went to the gas company and all round London to find out. At last he found it could be very simply and economically done by putting in a coke boiler, which was an extremely inexpensive method. At any time of the day or night he could get hot water of a temperature of 170° F. The heating by a coke boiler cost him about 1*s.* 6*d.* a week—at the outside 2*s.* in the winter. He found he had so much hot water from his coke boiler that he had to put in three radiators, so, in addition to baths and washing apparatus, he was able to heat the passage in the house. Those facts proved that a great deal could be done if there was combined effort to do it. There must be some central board or authority to show that this could be done, and if it had to be shown the Royal Institute of British Architects was the sort of society in London to do it.

Mr. W. D. Caröe, M.A., F.S.A. [*F.*], said that as a member of both the Societies concerned—viz. the Institute and the Smoke Abatement Society—he should like to thank Sir William Richmond and Professor Church for bringing this matter forward, of so great importance as it was. It was very interesting to hear of the tests which had been made, and that there was a grate which apparently was promising. They had not been told the price of the grate, which, of course, was a matter of some importance in passing it off upon clients, and especially poor clients. But he was afraid that that was not quite all that had to be done. Even supposing they had this central body constituted—a suggestion which he entirely approved of and would entirely support—how was that central body going to enforce that such a form of grate was to be put into all the houses which now exist?—and after all the largest amount of smoke came from the small houses, as, for instance, those in the East End of London. Sir Charles Cookson, who was an energetic member of the Smoke Abatement Society, had certainly made a discovery which it seemed possible to apply generally if one could only get the gas companies to move in the matter. The gas companies had shown how they could derive immense profit from the penny-in-the-slot system of cooking by gas. The poorer classes, unfortunately for themselves, did not require hot-water apparatus; but they had just been told of a manner in which the difficulty might be solved, and it was a manner he always endeavoured to get his clients to use, because it was effectual and cheap. The great point was how to get the poorer classes to use existing grates so as not to create smoke. The principle was an exceedingly simple one. All that was required was a small gas jet, a little circular pipe put under the bottom of the grate with a few holes in it. In the bottom of the grate was inserted a small market-able article called a crater. Sir Charles Cookson said that that crater was not really necessary: his own experiments led him to suppose that it was certainly advantageous. It cost one shilling and sixpence. This was used only for lighting the fire by turning it on for about five minutes. For a slow stove he found a little more than five minutes necessary—perhaps ten minutes at the outside—to ignite the coke fire, and that coke fire would give out an excellent heat. It would give out a little blue flame, not, of course, the comfortable flame of bituminous coal, but it made an exceedingly pleasant fire. If the fire went down the gas had simply to be turned on again, and in two or three minutes the fire was bright again. Coke, again, required hardly any stoking. Sir Charles Cookson had fitted up his own house entirely on this principle: he had had it going now for a year, he believed, and never had any coal in his house at all; he found it perfectly successful and exceedingly cheap. But, of course, its cheapness consisted entirely in using the gas for a short time. It seemed to him that all they would have to do would be to persuade the gas companies to insert these installations under the fires free of cost to make an enormous profit out of it. We all know how careless our servants are, how careless we ourselves are, and how exceedingly careless the poor are. They will light their coke fire with their little gas arrangement, and leave the gas burning all day long and continue to pay for it, all to the advantage of the gas companies. But he felt perfectly certain it would pay the gas companies thoroughly well to put in these installations free of cost, just as the electric light company in the East End of London, where installations could not be afforded, were supplying the wiring in the houses entirely free of cost simply for the use of the electric light; and the gas companies might supply the installation simply for the use of the gas. If we could get the gas companies to take up this system, which worked so exceedingly well, he felt sure the difficulty might be solved to a very large extent. He would, of course, also carry out the other suggestions which had been made in dealing with new houses. He was very sorry indeed that Sir Charles Cookson was not well enough to attend that evening and explain the matter himself, so he had endeavoured to do it for him, because he had tested this practically and found it quite successful. He would give an instance of its efficacy. He had to deal, not long ago, with an old flue in a house built at the beginning of the last century, which constantly got choked with soot with an ordinary fire beneath it. He took out the fire, put in this arrangement, and it acted admirably; the chimney had never been clogged or required sweeping since. He should say that the credit for this arrangement belonged not to him, but to Sir Charles Cookson.

The PRESIDENT: I presume that in the flue you were speaking of they had been using all coal, and afterwards they used coke. So that the whole question is determined by people using coke instead of coal.

Mr. CARÖE: Absolutely.

Dr. WYLD said that, simultaneously with Sir Charles Cookson, who was a friend of his, he began to apply gas for lighting his drawing-room fire, and he found it perfectly successful and a great deal more economical than wood. It had this advantage: if one left the drawing-room for some time, and came back when the fire was almost out, except a small spark, by merely turning on the gas it blazed up, and one had a good fire in a couple of minutes. It was a most admirable plan. With reference to the gas companies supplying this apparatus free of cost, he might say that he was very intimate with the directors of the Gas-Light and Coke Company, and they had every reason to be grateful to him, because through a suggestion he made to them twenty years ago their revenue had increased £500,000 a year. He had approached them again and again, and he had one of the directors with him, but none of the others, and he could not induce them to supply this apparatus for lighting fires by gas. If they did adopt it, it would put some £300,000 a year into their pockets for extra gas. Dr. Des Vœux had spoken of a very admirable new grate, which he said was very economical, and which seemed in every way desirable; but the principle of that grate was fundamentally the existence of a blower in a certain portion of the grate, namely, in the basement instead of at the top. He would particularly urge upon architects that they should consent to build no house unless provided with grates with blowers. The blower was a most admirable adjunct. If in lighting a fire they put down the blower, there would be no smoke at all so long as the blower was down. All the smoke in London in the morning was due to the lighting of fires, and if they were all lighted with blowers there would be scarcely any smoke. In his drawing-room grate there was a blower, and the smoke had disappeared. A blower costs only about half a crown to add to the expense of each grate, and if they were old grates all that was required was to drill holes in the ironwork, put in pegs, and hang a thin iron sheet before the fire. It was a most admirable thing, and he could not conceive why it was not universal. He wondered that architects, who were full of brains and full of intellect and keen in competition, did not try to do things of that kind. They went in for beautiful grates and ornamental grates; why not go in for grates with blowers equally beautiful?

Mr. E. W. HUDSON [*A.*] said that their general experience did not endorse the remarks of the last speaker. Blowers seemed to draw the fire up the chimney, but his experience was that they did not get rid of the smoke at all. The smoke passed up the flue, but the smoke was there all the same. He saw a grate some time ago in which, instead of the grating at the bottom, there was an Archimedean screw. The coal was put in the centre, and the screw given a turn with a ratchet, and that shifted the coal into the middle of the fire. That seemed a simple arrangement, but its expense would prevent it being used by poor people. As regards new houses, schemes had been tried by making the flues horizontal and drawing them together to one shaft, and there consuming the smoke before it passed into the outer air. Perhaps someone present could give them the result of some experience in that way.

Mr. Julian Corbett, who was called upon by the President, said that from what had fallen from speakers the subject seemed a very difficult and a very technical one. It seemed to him from what Dr. Des Vœux had said that it was possible to abate smoke from an open grate, and he could not help thinking that the cause would receive enormous help if the Institute could see its way to appointing a committee to consider the subject. The Society had only considered it at present from their own point of view, but it was of immediate importance that it should be considered from a technical and scientific standpoint—from an architect's point of view. The Society felt that unless they could meet the views of architects they were simply beating the air, and it was impossible for them to know the practical difficulties which stood in the way of what might be only their pretty little theories. Therefore it would be a great gratification to the Society, and it would help the cause, if the Institute could see its way to carry on experiments by a committee or otherwise.

Mr. C. H. Brodie [*A.*] referred to what was called a "well-fire," a kind of fire commonly used in the North of England, and that was being used in London at the present moment. There were several manufacturers of such a grate, but it was not necessary or desirable that he should name them. He should like to know if one of the fires Dr. Des Vœux experimented with was one of this particular kind.

Dr. Des Vœux: Yes, I did test a "well-fire," and the result was fairly satisfactory—much more so than would be the case with the kind of grate you have here.

The President said he was sorry to hear their nice fireplace abused so much. He had often stood in front of that fire and enjoyed it very much. It gave out a good deal of heat, whatever amount of smoke it produced. Dr. Des Vœux had told them of a very excellent grate that apparently consumed its own smoke. Of course they could not make the Institute into an advertising agency for grate makers, but at the same time some of them might like to know what that particular grate was. It was a pity that architects, with the great talents which Dr. Wyld kindly presumed they as a body possessed, should not give attention to this subject of smoke-consuming grates, but it was a difficult matter for an architect to turn his attention to, because if he designed a grate his client might find it somewhat expensive to try it. Again, architects did not take any profit from building materials, and if he designed a grate it would be practically in the nature of a present to a grate-maker. Again, it would be a very difficult matter to force a smoke abatement grate upon intending builders—for that he supposed was what they meant this Central Committee to do. It was, too, a very difficult matter to compel owners of houses to suddenly change all the grates or adapt them to new conditions. If there was a simple means of adapting a grate burning ordinary coal to consume smoke, and the Smoke Abatement Society would show how it could be done, it might be carried out. At any rate, he was sure the Institute would be quite willing to assist in the object the Smoke Abatement Society had in view. As far as he was concerned, he would promise that this discussion should be printed in the Journal, and that the editor should insert a notice drawing the attention of members to the invitation to join the Smoke Abatement Society. The Council would also give the matter consideration at an early date, and see if they could arrange for a committee to co-operate with the Society in some way or other. In the meantime he would put the resolution moved by Sir William Richmond, which had been formally proposed and seconded.

The resolution was carried unanimously, and upon the motion of the President a vote of thanks was also passed to Sir William Richmond and other members of the Coal Smoke Abatement Society for coming to the Institute to speak upon the subject.

The Architects' Benevolent Society.

The Annual General Meeting of the Subscribers and Donors will be held in the Rooms of the Royal Institute of British Architects, 9, Conduit Street, W., on Wednesday, the 12th March. The President, Mr. William Emerson, will take the Chair at five o'clock. The attendance of members is particularly requested to receive the Report, Balance Sheet, and for other business. The following Resolutions will be moved:

1. That By-law No. 55 shall be amended to read as follows: "All Legacies and all Donations shall (unless otherwise directed by the Donors) be laid out or invested under the direction of the Council, in or upon Government or other Securities or Investments in which a Trustee may invest under the powers of the Trustee Act 1893, or under any subsequent Act or Acts for the amendment of the same, or in or upon any Security or Investment for

the time being permitted by the Chancery Division of the High Court of Justice, or any Authority constituted in lieu thereof."

2. That the first word in By-law No. 65 shall be altered from "Six" to "Ten."

3. That in By-law No. 41 the word "week" shall be substituted for "Wednesday."

REVIEWS.

MANCHESTER CATHEDRAL.

Bell's Cathedral Series. Manchester. By Rev. Thomas Perkins, M.A. 8o. *Lond.* 1901. *Price* 1s. 6*d.* [*Messrs. George Bell & Sons, York Street, Covent Garden.*]

Unlike Liverpool, Manchester has not arrived at a scheme for a new "Gothic" cathedral. But upon the creation of the see in 1847 she was more fortunate than her neighbour in possessing a really fine collegiate church, which, without pretensions to cathedral rank, has been fairly well adapted to cathedral uses. But it must indeed have been a depressing moment when the devoted historian was set down before an exterior no part of which retains a remnant of its original spirit or interest, whose walls are clad in soot as with a dingy mourning garment, and whose surroundings are grimy and commercial.

Unfeeling restoration has done its very worst here, but Mr. Perkins overcame first impressions, and found beauty not only in the architecture of the church itself, but also in the effect on it of the atmosphere which is the *genius loci.* After having given a short historical sketch, which the student would supplement and correct in some of its details from other sources, and having described the external features with a conscientious lack of enthusiasm, from the new western porch to the hungry tower that swallowed so many thousand pounds and so many years of labour that might have been better spent, the author turns to the interior, and finds something worthy of more than a guide-book treatise. There is nothing earlier here than the fifteenth century; but though little of the original work appears upon the surface, it is a fine example of Perpendicular architecture, and the general proportions of the nave and choir and the magnificent woodwork deserve all the praise bestowed upon them.

The plan given is not of much architectural value, but the views are well chosen for illustrative purposes, and well reproduced, the want of clearness being no doubt partly due to atmospheric conditions. It would have added considerably to the value of the book had some clearer details of the beautiful screenwork been given.

From its subject we could hardly expect this volume of Messrs. Bell and Sons' Cathedral Series to equal most of the others in general interest.

The latter part of the book describes the Chetham's Hospital, originally the home of the Gresleys, which passed to the warden and fellows of the church, and remained their home for more than a century. After its disendowment by Edward VI., it passed to the Stanleys, and was bought under the will of Humphrey Chetham from the then occupier for a school, which was opened in 1658. Since then a considerable number of poor boys have yearly received a free education in this charming relic of old Manchester.

If the church is, as a cathedral, wanting in interest, the Chetham's Hospital is full of it, and some of the illustrations are the best in the book. The hall, library, reading-room, and feoffees' room, with their fittings and furniture, are worth careful study. They would be interesting in Oxford; in Manchester they are doubly so.

PERCY S. WORTHINGTON.

FORMAL GARDENS.

Formal Gardens in England and Scotland. By Inigo Triggs. With photographic illustrations by Charles Latham; plans, details, and perspective views by the author. 4o. *Lond.* 1901. *In three parts, at* £1. 1s. *each net.* [*B. T. Batsford, 94 High Holborn.*]

This work, the first part of which now appears, is and promises to be a most valuable addition to an already large collection of books on Gardening. Unlike the majority of these, however, this publication serves a definite purpose and supplies a real want. Mr. Triggs is to be congratulated both on his treatment of the subject and his selection of examples for illustration. This he has done with a right appreciation of their intrinsic artistic merit; he has not forgotten the fact that all old subjects are not necessarily good. In garden craft, as well as in architecture, that fact is often forgotten, and lavish praise given to subjects which owe their principal charm to the interest of time and colour, but which possess no artistic merit in themselves. The real value of Mr. Triggs's work to architects is in the series of very accurately and carefully measured drawings of the old garden plans; these, together with the sections, elevations, and details, supply just that information which, to those actually engaged in practical garden work, is so valuable and interesting. To the general public, the greatest charm of the book lies, undoubtedly, in the very fine series of photographic illustrations by Mr. Charles Latham. These are selected with admirable judgment and care, and also with a certain artistic feeling for composition, and light and shade—qualities usually absent from the vast majority of photographs.

The Historic Note is brief and interesting. Mr. Triggs traces the evolution of the fourteenth-century garden quickly and with a sympathetic hand. He does rightly at the close of the note to bring into sudden relief and strong contrast to the quiet beauty of the old-world gardens he illustrates some of the absurdities and inanities of that dreadful product of an immoral age—"Landscape Gardening," with all its shocking want of principle and ideas. In relation to this it is impossible to forget the debt of gratitude all garden lovers of to-day owe to men like Sedding, Reginald Blomfield, Thomas, Mawson, Forbes, Sieveking and others for the good work they have done in reviving the old truths of garden design, in educating the public to a recognition of these truths, and leading all who care for their work to better things. It is due to writers like these, with their energy and enthusiasm, that "Landscape Gardening" lies to-day a-dying, if not already dead. That is a result in itself a sufficient tribute to their zeal, and one of which they may well be proud. Without such influence, the many recent admirable books on garden craft, of which this particular one of Mr. Triggs is such an excellent example, would probably have never appeared; the architect would not yet have realised, as he does to-day (or it is hoped he does) the connection between garden and house design; and, in short, we should still be in the wilderness, wandering, with no intelligible way out of it.

As another outcome of all that work we are glad to welcome this book by Mr. Triggs. There can be no doubt but that it will prove of the greatest assistance to modern garden craft, not only for the reasons already given, but also because the illustrations suggest all kinds of delightful possibilities to those of a receptive and thoughtful turn of mind; in them are the happiest solutions to difficult problems arising every day, and, above all, there is that wonderful incentive to work, commonly called "inspiration." The illustrations abound in "inspirations," not so much in the perspective views, which are open to criticism (two, at least, would have been better omitted), as in the plans and photographs, which undoubtedly constitute by far the greatest charm of the work.

C. E. Mallows.

MINUTES. VIII.

At a Special General Meeting, held Monday 3rd March 1902, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 28 Fellows (including 11 members of the Council), 24 Associates (including 2 members of the Council), 1 Hon. Associate, and visitors, the object of the meeting having been stated—viz. to elect the Royal Gold Medallist for the current year—the President announced that owing to the death of the nominee for the Medal, Mr. John Francis Bentley, the Council had resolved not to proceed further in the matter until the King's pleasure be known respecting the presentation of the Medal to Mr. Bentley's family in honour of the great work that he had done.

On the motion of the President, it was resolved that a message of condolence be sent from the Institute to the family of the late Mr. Bentley.

At the Eighth General Meeting of the Session, held at the conclusion of the Special General Meeting above referred to, and similarly constituted, the Minutes of the Meeting held on Monday, 17th February 1902 [*ante*, p. 192] were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following Associates:—William Chastel de Boinville, Goymour Cuthbert, and Thomas Gordon.

The Hon. Secretary referred to the receipt of a number of donations to the Library, and a vote of thanks was passed to the donors.

The following Associate attending for the first time since his election was formally admitted by the President and signed the Register—viz. William John Devlin.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election—viz.: As FELLOWS (2), Robert Langton Cole (*A.* 1889); James Miller, Glasgow. As ASSOCIATES (3), Alfred Ernest Biggs (*Probationer* 1895, *Student* 1897, *Qualified* 1901), Felixstowe; Walter Watkin Ellison (*Probationer* 1895, *Student* 1898, *Qualified* 1901); Thomas Marshall Smith (*Probationer* 1896, *Student* 1897, *Qualified* 1901).

The following candidate was elected as Associate under By-law 9—viz.

CHARLES HENRY GAGE (*Probationer* 1894, *Student* 1896, *Qualified* 1901).

Sir Benjamin Stone, M.P., having addressed the Meeting on the subject of the work and aims of the National Photographic Record Association, which had kindly lent for the inspection of members a large collection of photographs of architectural work which were about to be deposited in the British Museum, a vote of thanks was passed by acclamation to Sir Benjamin Stone, and also to the Association for the loan of the photographs.

Sir William Richmond, K.C.B., R.A. [*H.A.*], addressed the meeting on behalf of the Coal Smoke Abatement Society, and, in accordance with notice, moved the following Resolution:

> That in view of a Resolution of the Coal Smoke Abatement Society seeking the co-operation of the Institute, members are invited to join the Society, or that such other assistance be given by the Institute as the Council may deem desirable.

The resolution having been seconded by Mr. John Slater, B.A., *Vice-President*, a discussion ensued, in which various methods of obviating the smoke nuisance were referred to. The resolution as above was then put from the Chair and carried unanimously.

A vote of thanks was passed to Sir William Richmond for bringing the matter before the Institute, and to members of the Society for attending to speak upon it.

The proceedings then closed and the Meeting separated at 9.30 p.m.

USUI CIVIUM DECORI URBIUM

THE PLANNING OF SOME RECENT LIBRARY BUILDINGS IN THE UNITED STATES.

By Sidney K. Greenslade [*A.*],

PUGIN STUDENT, GRISSELL MEDALLIST, GODWIN BURSAR.

Read before the Royal Institute of British Architects, Monday, 17th March 1902.

ALTHOUGH the library movement in America is by no means of recent growth, yet its developments during the last ten years have been so enormous that few buildings erected previous to 1885 would be found to-day suitable for modern requirements. The librarians themselves have settled points in the policy of the working of libraries which previously were undetermined, and it is the very active interest of these men which has so greatly assisted the architects to produce the very fine plans.

The remarkable generosity of Mr. Carnegie has helped forward the movement wonderfully. Last year alone he gave more than £2,500,000 for new buildings. The activity of other generous men and women has also been very great, as well as the public-spiritedness shown by many of the great towns in voting large sums of money for similar purposes. The result is that the American architect has an opportunity quite unequalled, and he decidedly is showing the greatest interest in the work. At present some of the recent plans seem as perfect as possible, yet the interest in the subject is so great and ideas in regard to the working of libraries are being so rapidly evolved that new developments are always taking place.

An endeavour has been made in this Paper to select representative libraries in each class: many good ones no doubt have been missed—but during a short stay in so large a country that was inevitable—and many could have been included if space had allowed.

The descriptions of the various libraries have been grouped under the following heads (town libraries have been subdivided into three, according to the size of the library): (1) Reference libraries; (2) University libraries; (3) Town libraries (in three divisions); (4) Branch libraries; (5) Small libraries.

REFERENCE LIBRARIES.

It is difficult to distinguish between the very large town libraries, such as those of New York and Boston, and what might be called reference libraries proper. It is of course the lending department which makes the distinction. Yet both the New York and Boston libraries will in the future become, as their collections increase, great reference libraries. These valuable collections will be studied on the spot, and it is from this point of view that the New York Public Library seems to have been planned. Its spacious reading-rooms, wonderful series of special libraries and exhibition galleries, are all designed for the student. Its description has therefore been included under this heading. The Congressional Library at Washington is decidedly the largest yet erected of this class. Its octagonal reading-room with the immense book stacks projecting from three of its sides is the important feature, and it is interesting to compare it with the totally different method adopted at New York, where the main rectangular reading-room is placed over the seven floors of the stack room. A similar plan to the latter has been suggested by the architects, Messrs. Shepley, Rutan and Coolidge, for the proposed John Crerar Reference Library at Chicago: here the reading-room, 240 ft. by 50 ft., is placed on the third floor, with four floors of stack below.

The Newbery Reference Library at Chicago can hardly be included as a recent one, yet it cannot be passed over without comment. It was the result of the ideas of the librarian, the late Dr. Poole. He held that a library should be really nothing more than a warehouse divided into rooms, in which the books were stored and read, and having no general reading-room or general stack-room, the books being shelved in the various rooms according to their subjects. The building has a frontage of 325 ft. and a depth of 75 ft., and consists of basement and four floors. The plan is extremely economically arranged, and with the exception of the corridor at the back the whole of the floor area is used for reading-rooms of various sizes, the end ones being each 50 ft. by 66 ft., the others between being smaller. Although Dr. Poole's plan was not wholly a success, yet its influence has been great, and the use of the special room with its special collection of books has become a law in library planning.

Nearly all the States have reference libraries, but rarely have special buildings been erected. They are generally incorporated with and form part of the State House, as at Boston, Massachusetts, and at Albany, New York. The recently erected one at Madison, Wisconsin, is a distinct building, and is planned rather on the lines of a large town library. The main floor plan is very well arranged, as will be seen from the illustration, fig. 2, p. 238.

THE CONGRESSIONAL LIBRARY, WASHINGTON.

The Library of Congress at Washington is by far the largest library building* in the United States of America. It was in April 1886 that Congress selected and acquired the site and proceeded to obtain plans. Finally those prepared by Messrs. Smitheyer and Pelz were adopted, but no limit of cost was fixed. By the summer of 1888 about one-half of the foundation footings for the building were laid. During that year, however, Congress became dissatisfied with the progress that had been made, and lodged the entire control of the work, including the preparation of new plans, in the hands of General Casey, Chief of Engineers of the United States Army, with Mr. Bernard R. Green, C.E., as resident engineer. In March 1889 Congress enacted that the building should be erected at a total cost of £1,300,000, including previous expenditure, according to the plans prepared and submitted by General Casey, which were based on those adopted originally and provided a building of similar form, dimensions, and architecture. Under the new conditions operations were commenced in the spring of 1889 where they had been left off the year before, and the construction then proceeded without interruption until the building was finally completed in the spring of 1897.

The building is 470 ft. in length by 340 ft. in width, with four great inner courts. In height it consists of three floors above the ground; there is also a sub-basement. Each of the six pavilions contains an attic. The following is from Mr. Green's account of the building in the Smithsonian Report of 1898: "The first guiding principle of the design to accommodate a nation's library was that an ample general reading-room should be located within the mass of the books to insure their easy reach and access. The next was ample light and air combined with security and latitude for future growth of the collections and their uses; then that all necessary accommodations should be provided for the constant work involved in the care, use, and increase of the library and its several departments. In endeavouring to meet all the utilitarian requirements of a national library in the present generation, it was found that library science was in a state of rapid evolution, and that the future of the subordinate departmental locations and needs was not sufficiently defined to enable special provisions to be made for them during the construction of the building. As a collection of books, however, to be housed in shelves and used by readers, the problem of shelving and reading-room was much more clearly presented, although book-shelving on a scale of millions of volumes had not hitherto approached a stage of perfection."

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* See plan and interior views in the Paper on "Public Libraries," by the late Mr. J. M. Brydon, JOURNAL R.I.B.A., Vol. VI. (1898–99), pp. 214–15, 217.

It was out of these conditions that the plan of the building was evolved. First, a reading-room of octagonal plan to accommodate 250 to 300 readers, amply lighted, is placed in the centre of the building. Adjoining this on three sides the great stacks of book-shelving are located, the main entrance to the room being on the fourth side. The four alternative octagonal sides face towards the large inner courts. The cross plan thus formed is enclosed by four fronts, the whole forming a rectangular plan and containing spaces for the subordinate departments of the library, for expansion of the stacks of book-shelving as future needs will require, and for the exhibition halls, special reading-rooms, staff offices, &c. For the reason given the spaces in the front sections of the building were generally not subdivided, but are so disposed as to admit of any desirable subdivision of a more or less permanent character that experience may dictate. At the same time the arrangements of windows, ventilation and communication, and the strength of the floors, are such that any part or the whole of any of the long halls may be conveniently occupied by shelved books, while the corner pavilion rooms are favourable for staff work, reading-rooms, &c., and contain also lavatories and stairways.

The building has only two entrances—a two-storied one in front and a single one in the rear. The first is for the general use of the public and the other especially for the delivery and dispatch of freight. The front or main entrance opens into a great staircase hall, 132 ft. wide by 122 ft. deep, extending the full height of the pavilion through the first and second stories. The great octagonal reading-room opens directly from the stair hall: it is 100 ft. in diameter, 125 ft. high to the crown of the dome, and is lighted by eight large semicircular clerestory windows 32 ft. wide and the lantern above the dome. Small windows open into the alcoves in the four sides facing the courts. The seating capacity of the room is for 250. The space allowed each reader averages 4 ft. of desk. The desks are arranged in concentric circles; there are three rows, the two outer rows have double desks, the readers facing each other. The double desks are 4 ft. wide altogether, and are sloped 3 in., the height being 2 ft. 9 in. to the top: between them at the centre is a small screen 9 in. high. The space between the rows, centre to centre, is 11 ft. 3 in.

The card catalogue, and the superintendent's tribune and desks for his assistants, are placed in an enclosed circular space 29 ft. in diameter in the centre of the room. The floor of the superintendent's desk is raised 4 ft. 8 in. above the floor of the reading-room and commands the greater portion of it. There is a small stairway of six steps up to it: balancing this stairway on the other side is one to the basement. At the back of the superintendent's desk is the cabinet containing the terminus of the system of book-carrying apparatus connecting the reading-room and stacks. The lift from the basement is also on this side of the enclosure. It is large enough to take the vertical book trucks used in the room and stacks. This central desk is also in communication with the several stories of the book stacks by means of pneumatic tubes for written messages and speaking. These are placed along the front of the superintendent's desk. There are twenty-four altogether—nine go to the north stack, nine to the south stack, and four to the east stack. Of the other two tubes, one goes to the librarian's room and the other connects with the Capitol. Each tube is numbered, and is worked by pressing a button, the action of which indicates also when the message is delivered at the other end. The height of the delivery counter which surrounds this central enclosure is 4 ft. 1 in. from the floor outside and 3 ft. 4 in. from the raised floor inside. Its width is 2 ft. 9 in. The drawers for the card catalogue for official use are placed on the inside towards the attendants. Outside the front is panelled only. The working space for the attendants inside is 4 ft. wide, and the space in front of the delivery counter for the public is 7 ft. wide. The card catalogue for public use, book-shelves for dictionaries, encyclopædias, &c., with standing desks above as well as seats alongside, face towards this space.

The two tiers of alcoves on each of the eight sides of the rotunda call for special notice. Each bay, about 12 ft. deep by 37 ft. wide, is divided into three alcoves by book stacks, and they are separated from the reading-room by bronze gates. These alcoves provide specially good places for quiet study. Above them is a gallery 35 ft. above the floor of the reading-room, from which visitors not desiring to read may view without disturbing the readers.

The three great book stacks project from three out of the eight sides of the reading-room and extend to the wings of the building. These are certainly most interesting and remarkable. All three are the same width, 45 ft., and the same height, 63 ft., but the lengths differ considerably—the north and south being 112 ft., against 30 ft. for the east stack. They are absolutely fireproof, the only materials used being steel, iron, brick, glass, and marble. The stacks are divided into nine floors, each floor being 7 ft. high. The basement story is 14 ft. below the level of the reading-room floor.

The fitting of the stack rooms is quite independent of the walls. It consists of a slender rolled steel framework of continuous columns and horizontal deck members. These horizontal bars have proper anchorage in the surrounding walls—requisite for the lateral stability of the loaded stack. The decks are covered with white marble slabs and contain narrow openings in front of the shelf ranges for communication, admission of light, and the circulation of air. Between the stanchions a simple vertical cast-iron wing is attached, having the necessary teeth and lugs to receive the shelves and permit of their ready adjustment to any interval desired.

The shelf is of a gridiron form, being a set of parallel bars of ∩ section. Its length is 3 ft. 8 in. in all the stacks: they are therefore interchangeable, and may all be removed from any bay or series of bays on a floor to make a passage-way. They are constructed of bars of rolled steel treated by the Bower-Barff process with a coating of magnetic oxide, which renders them as smooth as glass, and they are so spaced as to afford ample ventilation for the books and prevent any accumulation of dust. The central marble gangway, running from end to end of each stack room, is 6 ft. wide. The stacks are placed at 5 ft. 4 in. centres, the marble passage-ways between them being 2 ft. 6 in. wide—the 5 in. air spaces on either side making the total width 3 ft. 4 in.

Each of the two large stacks has a shelving capacity of 800,000 volumes. The ultimate shelving capacity of the whole building will admit of the storage of over four million volumes. An elevator, stairway, and the endless-chain book carrier are located in the middle of the stack.

The book carrier is a pair of parallel endless chains running in a vertical shaft in the middle of the stack, thence in a horizontal duct in the cellar to a point below the central desk of the reading-room, where it turns upwards and ascends vertically to the delivery outlet at the desk. A series of equidistant book trays eighteen in number are suspended between the chains. The machine runs continuously, and automatically takes on and delivers books of the size of a quarto or less at its reading-room terminal and at each of the stack stories. The speed of the carrier is about 100 feet per minute.

At the ends of each of the passage-ways between the stacks are arranged the windows. They are placed at the intersections of the decks, so that each may diffuse direct light into two tiers at once. In this way both the upper and lower portions of the stacks are well lighted. The glass line at the sill is 2 ft. 7½ in. above the floor of the deck, and between each sill and head, and 1 ft. 7½ in. above the floor, is placed a seat to each window for the use of readers or the attendants. The windows are fixed and air-tight, all air for warming and ventilation being passed up through the stack from the sub-basement by natural draughts or fans and discharged at the roof. The fresh air is taken into the sub-basement through openings looking into the courtyards, first, however, passing through a filter of cotton cloth to exclude all dust: after being warmed it ascends. If necessary, electric fans are used in case of any sluggishness in the natural current of air. Besides windows in the side walls, there are skylights in the roofs to each of the stack wings.

From a point in the basement just below the centre of the reading-room, books of any size are transported in a few minutes to the Capitol, and returned by means of an underground endless cable, driven by an electric motor. The distance between the Capitol and the library is a quarter of a mile. A brick tunnel, 6 ft. high and 4 ft. wide, connects the two, and through this the endless cable moves. The speed at which the cable runs is 600 ft. per minute. The four outer wings with their corner pavilions surrounding the great reading-room and stacks are divided and allotted as follows:—

In the basement a corridor 10 ft. wide is placed next the inner courts, with a staircase in each of the four corners to the upper floors and sub-basement, in addition to the two flights of stairs at the main entrance. The sub-basement contains the electric machinery, workshops, copyright storage, &c. The basement contains two large binderies, one 130 ft. by 22 ft. 10 in., printing-rooms, copyright department, library for the blind, staff lavatories under the alcoves of the reading-room, the superintendent's department, public lavatories, mail and packing rooms.

The first story is occupied on the right of the main entrance to the front by the Representatives' reading-room, 105 ft. by 22 ft. 6 in., and the Senators' reading-room, 48 ft. by 30 ft. The south wing contains the reading-room for current periodicals and newspapers: it is 217 ft. by 35 ft., with the delivery counter and attendant's desk placed at the entrance to the south stack. The order and catalogue rooms are in the east wing, each 130 ft. by 35 ft. The north wing, as well as the north-west pavilion, is fitted for maps and charts: the former is 217 ft. by 35 ft., and is connected with the north stack. To the right of the main entrance are placed the administrative offices, including the rooms of the librarian. It is proposed at this first-story level to connect the north and south stacks with the catalogue and order rooms by bridges across the courts.

On the second floor the rooms are chiefly devoted to exhibition purposes—prints, books, manuscripts, special collections, and music.

The height of the basement is 14 ft., floor to floor; the first story 21 ft., and the upper story 29 ft. in the clear. The boiler, battery, steam pumps, coal vaults, ash house, &c., are located under the east approach outside the building. There are sixteen 60-horse-power boilers and a coal storage capacity of 3,000 tons. The steam operates the hydraulic pumps for elevator power and water supply, the air compressor for the pneumatic tube system, and the dynamo engines for electric lighting and power apparatus, the exhaust from which is passed through eight sets of tubular tanks for heating the water required for warming the building. By the circulation of this hot water through cast-iron coils of 3-in. pipe, enclosed in chambers of brick distributed throughout the cellar, to which it is carried and returned by pipes, fresh air from outside the building is warmed and passed by natural draught up wall flues to the respective stories and apartments above. The air thus taken into the building and circulated through the rooms is discharged at the roof through other wall flues.

The great reading-room, the fine stack rooms, and the ample accommodation provided for the work of the library and its future needs, make this one of the most important libraries in the world.

NEW YORK PUBLIC LIBRARY.

The design for the New York Public Library, which is now being erected, is the result of two competitions held in 1896 and 1897. In the limited second competition twelve firms of architects were selected from those competing in the preliminary open competition, out of a total of eighty-eight. Tentative sketches of the plans of each floor were issued with the instructions. The assessors (with those selected by the competing architects), Professor Ware of Columbia University, Dr. Billings the librarian, and Mr. Bernard R. Green of the Congressional Library, finally selected a design which practically adopted the whole of these suggestions. There have been variations since made, during the preparation of the contract drawings, but these have not been of great importance and will be noticed later.

The site is one that allows of an isolated building, between Fortieth and Forty-second Streets on the Fifth Avenue, with ample space for future extension, 455 ft. frontage and 482 ft. to the sides. The cost of the building (without fittings, &c.) was not to exceed £340,000, but it will have greatly done so—nearly twice that amount.

There are many interesting points in the conditions of competition which are worthy of study. They are extremely minute in detail. The main points determined upon by the assessors and trustees in regard to the planning are important principles, which after great study and consideration they adopted, and these make the New York Public Library perhaps the most important library now being erected in the States.

The following are three important conditions laid down, and they have not been essentially departed from, viz.:

1. The stack was to be placed at the back or west side of the building, six floors in height.
2. The main reading-room for 800 readers was to be placed over it.
3. The lending delivery room was to be placed in the basement, in the right hand court, to be top-lighted and with entrance from the side street.

"By concentrating the book stacks in a rectangular block on the west side, and placing the public reading-rooms above them on the third floor, with access to the stacks on each floor at the north and south ends and in the middle of the east side, the central supervision of the reading-rooms and the central delivery of books can be secured by very simple mechanism, free and direct communication between the administrative department and the book stacks can be maintained, and opportunity for easily extending both the book stacks and the reading-rooms towards the west can be provided for whenever this may be desirable. Moreover, reading-rooms placed at the top of the building are not only quieter, better lighted, and more easily ventilated, but they can be constructed without encumbering the floor with columns" (Terms of Competition.)

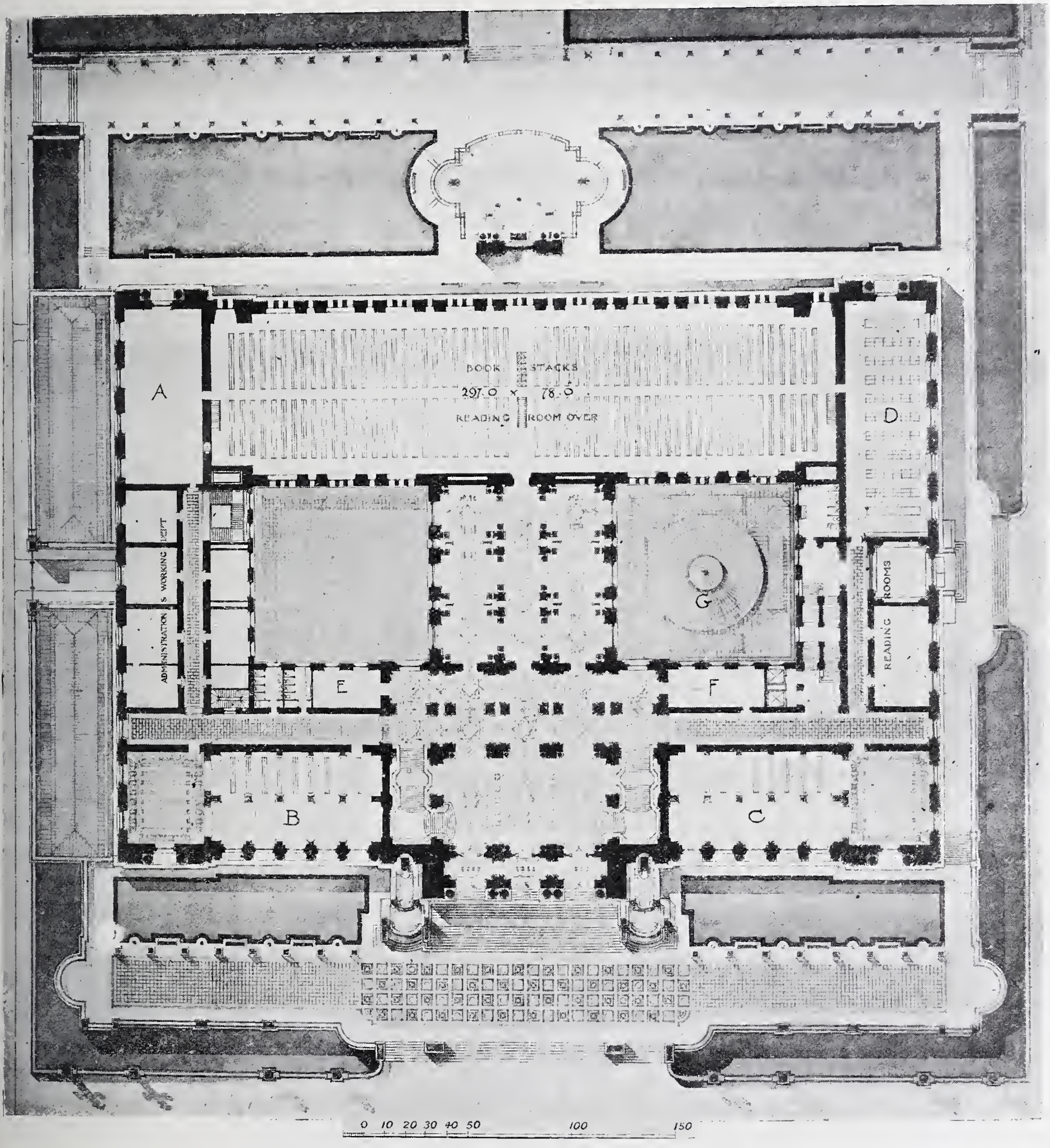

FIG. 1.—NEW YORK PUBLIC LIBRARY, NEW YORK, U.S.A.: PLAN.
MESSRS. CARRÈRE AND HASTINGS, ARCHITECTS.
A, Reading and Checking Room. B, Children's Room. C, Periodical Room. D, Newspaper Room. E, Reception Room. F, Blind Room. G, Roof of Lending Delivery Room.

These are some of the advantages to be derived from this scheme, the adoption of which has resulted in a magnificent working plan. They are immensely great, and if for one moment the plan of this library is compared with that of Boston it will be easily seen how rapidly the science of the librarian has developed. Of course, the Boston library was fine for its time. Both architects and librarians had to learn what was wanted. The library building as understood now in the United States, planned for its open-shelf rooms, rooms arranged for free access to stack, and well-fitted children's rooms, is quite a recent development, and each year progress is made towards the creation of the ideal plan.

The entrances to the basement are in Fortieth and Forty-second Streets: the one from the latter street (the north side) enters centrally and through halls directly into the lending delivery room, 83 ft. square. The west wall of this room has eight openings into the stack room, and the delivery counter will be placed just outside, extending the whole length of the room. The whole is top-lighted, the space above forming one of the two inner courts. Quite adjacent, between the delivery room and the entrance, are placed the public lavatories and elevators and stairways to upper floors. The room to the north end of the stack is used for the patents library: it is 36 ft. 6 in. by 83 ft. 6 in., and is really a continuation of them. The first floor of the stack is level with this basement floor. It is 297 ft. long by 78 ft. wide. The stacks are arranged in two rows, 5 ft. centres, 7 ft. 6 in. clear spaces next walls, and 5 ft. central gangway north and south. The stairs are arranged at the two ends and the centre; the book lifts are also placed in the centre of the room. There are altogether seven floors of stacks, each 7 ft. 6 in. floor to floor, except the top, which is 8 ft. 6 in., to allow for extra depth of reading-room floor and arrangements for the mechanical book carrier. The height of the basement is two floors of the stack; that of the first floor, three floors of stack; and the second floor, two floors of stack.

The left or south entrance is used for the administrative portion of the building, and has a drive-way which leads directly into the court, balancing the court on the north side. This court will be used as the automobile station—automobiles being used for distributing to the branch libraries. It is on a level with the street outside. To the west of the drive is the packing and issue room, 36 ft. 6 in. wide and 83 ft. 10 in. long, with a room at the entrance to it 23 ft. square. Either side of the drive-way outside the main building—between it and Fortieth Street—are placed at the sub-basement level, which is 13 ft. in height, the coal room, 90 ft. by 32 ft., and the engine room, 116 ft. 6 in. by 31 ft., both top-lighted.

The printing shop, the bookbinding shop, and store, are placed in the front left-hand corner of the building, and occupy very large areas. West of these, and lighted from the south court, are the lavatories for the male and female employees, stores, workshops, scrub-women's room, &c., and the large space between the courts is assigned to the machinery.

On the first floor is arranged the very fine exhibition hall, 75 ft. square, placed directly opposite the main entrance between the inner courts. Either side of the great entrance-hall the stairways are placed to reach the second and third floors.

The children's reading-room and the periodical room are placed to the right and to the left of the main entrance. These rooms, which are each 125 ft. long by 45 ft. wide, are practically divided into three separate rooms by piers—the portion away from the window being divided into alcoves by bookcases. The south-west corner and south side are occupied by the administrative and working departments. The large room next the stack is the receiving and checking room—the other rooms being superintendent's offices, reception room, telephone, stores, girls' and boys' lavatories opposite children's room.

In the north-west corner north side are placed, next the stack, the newspaper room, 111 ft. by 37 ft., two reading-rooms—one 46 ft. 10 in. by 24 ft., the other smaller—stairways, elevators, and public lavatories, and also a room 46 ft. by 18 ft. for the use of the blind.

The second floor contains on the south side the administrative rooms and on the north side and central block, between the courts, the special libraries and their reading and study rooms. The administrative rooms are the accessions and cataloguing rooms, adjoining the south end of stack; and the order room, trustees' room, directors' room, staff lavatories, &c. The room for documents is placed adjoining stack in the north-west corner, and there are special rooms—for economics, science, Bibles, Oriental literature, with special reading-rooms and studies adjoining.

On the top floor the great reading-rooms, as before stated, are placed. There are four of them altogether. To reach the main one, the one second in size has to be crossed, and the other two are placed at each end of the main one. These end rooms can also be reached from the side corridors. Altogether they will make, perhaps, the finest suite of reading-rooms in the world. The main one is the same size as the stack room below, 297 ft. long and 78 ft. wide. It is lighted by large semicircular-headed windows on the two long sides, each 14 ft. wide—8 ft. 6 in. high from sill to spring of head, the sill being 15 ft. from floor. The end rooms are each 36 ft. 6 in. by 83 ft. 6 in., lighted in a similar way on the outer wall. The room at the approach to the main room is 78 ft. wide by 84 ft. 3 in. long, and is lighted by similar windows on the two sides toward the courtyard. At present little or nothing has been settled as to the fittings of these rooms, so they cannot be described.

The other rooms on this floor are for manuscripts, rare books, Americana, prints, maps, music, art and architectural books, photographs, special reading-rooms, and public toilet rooms. There are also four large art galleries.

Altogether this seems nearly as perfect a library as is possible. The magnificent group of reading-rooms on the top floor, with the huge stack below; the very fine approach to these rooms from the main stairways from the first to the third floor so arranged as not to return on themselves; the position of lending delivery room—its very direct connection with the street and the stack, and its isolation; the arrangement of the children's room and periodical room, with their separate stacks and easy access from main entrance; the possibility of future extension of both main reading-room and stack room easily assured without interfering with existing arrangements—are among the very many features that call for particular comment.

The cost will be about £660,000, and the shelving capacity is for 2,000,000 volumes. The architects are Messrs. Carrère and Hastings, of New York.

THE STATE HISTORICAL LIBRARY, MADISON, WIS.

The State Historical Library building at Madison, Wisconsin, is an extremely well-planned building, and forms an ideal reference library. The main building has a frontage of 210 ft. and a depth of 105 ft. At the rear of this project the two stack buildings, each 100 ft. wide by 110 ft. deep. It consists of four floors and a basement. Three of the floors are devoted to the purposes of the library; the basement is chiefly for storage, particularly for newspapers, and the fourth floor is allotted to the museum and art gallery.

The building is entered from each of the four sides, and two large staircases are arranged in similar positions either side of the main hall, which is placed centrally, leading to the upper floors. Adjoining these staircases are the public toilet and cloak rooms. The other rooms on this floor are the patents and public documents, 37 ft. by 45 ft., with two floors of stack to a portion of the room; the atlases, maps, and manuscripts, 26 ft. by 29 ft.; current newspapers, 18 ft. by 24 ft.; newspaper files, 10 ft. by 32 ft.; the stack rooms, one of which is at present only built; and seven special study rooms, varying in size and capable of shelving 20,000 volumes. This first floor is level with the first floor of stack, and each of the other floors of the building come every two floors of stack in height.

The book stacks are each 48 ft. wide by 60 ft. deep, and consist of six floors, 7 ft. 4 in. in height, fitted with steel stacks. The staircases, elevators, and book lifts are placed at the ends adjoining the main building. The stacks are placed at 5 ft. centres, and in two rows across the building, each 18 ft. long, with 5 ft. central and wall passage-ways. Desks are provided for the use of readers given direct access to the shelves. Each floor of the stack will shelve 40,000 volumes.

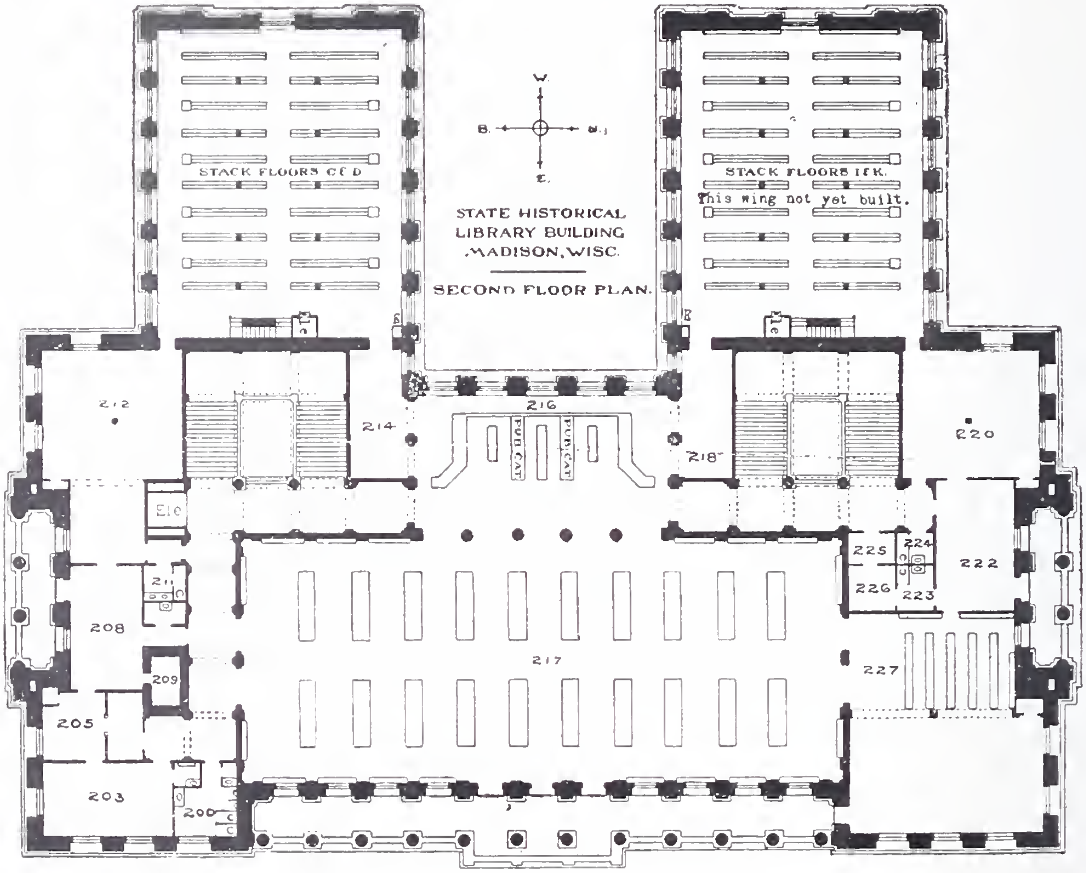

FIG. 2.—STATE HISTORICAL LIBRARY, MADISON, WIS., U.S.A.: SECOND FLOOR PLAN.

MESSRS. FERRY AND CLAS, MILWAUKEE, ARCHITECTS.

Room.	Description.	Dimensions.	Room.	Description.	Dimensions.	Room.	Description.	Dimensions.
200.	Toilet . . .	8 ft. by 11 ft.	212.	Official Catalogue Room .	29 ft. by 44 ft.	223.	Toilet	6 ft. by 9 ft.
203.	Secretary's Office .	15 ft. „ 26 ft.	214.	Delivery Room . . .	10 ft. „ 27 ft.	224.	Toilet	5 ft. „ 5 ft.
205.	Clerical Office . .	14 ft. „ 20 ft.	216.	Delivery Room . . .	28 ft. „ 50 ft.	225.	Janitor's Store Room .	6 ft. „ 9 ft.
208.	Librarian's Office .	15 ft. „ 26 ft.	217.	General Reading-Room .	48 ft. „ 118 ft.	226.	Store Room . . .	9 ft. „ 9 ft.
209.	Vault . . .	6 ft. „ 10 ft.	218.	Delivery Room . . .	10 ft. „ 27 ft.	227.	Periodical Room . .	39 ft. „ 45 ft.
210.	Closet . . .	5 ft. „ 9 ft.	220.	U. W. Catalogue Room .	27 ft. „ 29 ft.	ELE.	Elevator.	
211.	Toilet . . .	7 ft. „ 9 ft.	222.	U. W. Librarian's Office .	17 ft. „ 28 ft.	E.	Book Lift.	

On the second floor is placed the general reading-room, 48 ft. by 118 ft. and 30 ft. in height, with twenty tables 12 ft. by 3 ft., each seating twelve readers. Around the walls are shelves for 5,000 volumes. The approach to it from the stairs is particularly good, as well as the position of the delivery counters, and the delivery hall with the public catalogues. These are all adjacent to the main reading-room, being separated by a row of columns, and are also quite near the landing lobbies on either side. This delivery hall is 50 ft. by 28 ft., and on either side of it are the issuing rooms—27 ft. by 10 ft.—connecting with stack.

In the left wing are arranged the official catalogue room—29 ft. by 44 ft.—with entrance to stack room, the librarian's office—15 ft. by 26 ft.—with other offices, all adjoining.

In the right wing opening out of the reading-room is the periodical room—39 ft. by 45 ft. —with its own double-storied steel stack placed in the rear of the room, the front portion being fitted up for readers.

On the third floor, owing to the general reading-room going up through the two stories, the floor space is greatly reduced. In the left wing is the lecture room—30 ft. by 39 ft.—to seat 200. Over the delivery hall is a room for art and genealogy—18 ft. by 50 ft.—with two studies either side, and divided off from the visitors' balcony overlooking the reading-room by a low railing. In the right wing are six additional special study rooms.

Ultimately the building will house 675,000 volumes.

Architects: Messrs. Ferry & Clas, Milwaukee.

UNIVERSITY LIBRARIES.

The two buildings that are particularly worthy of attention are both in New York, the one belonging to the Columbia University and the other to the University of New York. They are not unlike in plan, both in general outline taking the form of a Greek cross. The great central reading-room—in one case octagonal and in the other circular—is the motive of the design in each building. Special study rooms, with their books stacked around them, or near them, are an important feature of both these libraries, and in each are treated in a different way.

Often a special library building is erected for a special subject. The recently-erected library of the Law School at the University of Pennsylvania, Philadelphia, is an interesting example.

COLUMBIA UNIVERSITY LIBRARY.

The Columbia University Library building is perhaps the most monumental of those yet erected in the United States, the one at the sister university of New York being much smaller, and only in that way taking a second place. The outline of its plan is that of a Greek cross, the arms being very short and wide, the width across them being 200 ft.*

The great feature of the building is the magnificent domed reading-room placed at the intersection of the arms of the cross. It is octagonal in form, the four sides at the angles being shorter than the others, and the whole is covered by a great dome. The lighting is from four very large segmental windows following the lines of the main arches at the sides. These windows are in the outer walls of recessed spaces, following the arms of the cross—the outline of the main building.

The main entrance to the building is approached by terraces of steps—fifty-two altogether —through a magnificent entrance portico of ten Greek Ionic columns. This is on the main floor level of the library. There are other entrances in each of the four corners of the building at the basement level, and it is these entrances that are generally used by the students, who reach the library from various parts of the grounds. A staircase at each of these entrances reaches the great corridor which surrounds the reading-room, and from which it is approached by the reader from the side opposite the catalogue and delivery space, in the left-hand arm of the cross. This corridor is 10 ft. wide, and is separated from the reading-room by four marble columns in each of its four open sides. Between these columns are arranged bookcases, forming screens between the corridor and the room. In two cases only are there openings—one opposite the main entrance, where a locked gate is placed, with plate glass, so as to allow visitors to view the room without disturbing the readers, and the opening opposite the delivery counter, for the use of the readers and attendants.

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* See plan and exterior view, Journal R.I.B.A. Vol. VI. pp. 220–21.

It was originally intended that the assistant librarian's desk should occupy a raised position in the centre of the reading-room, as at Washington, but it was abandoned at his request, and it is now placed on the right of the entrance to the room, with staircase and lifts to stack room below adjacent. The reading-room is 75 ft. square, with octagonal angles, and accommodates 152 readers. The tables are arranged in concentric circles—four rows altogether. The readers on the outer ring have each allowed them a space of 2 ft. 9 in., the second row 2 ft. 11½ in. The tables from front to front are 5 ft. They are sloped slightly, and between each reader is a slight tapering division bead. The oak bookcases in the reading-room contain 12,000 volumes, all reference books, divided into various classes, each case being distinctly labelled. The large central octagonal case has shelves both inside and out, as well as a case within it in which the bound magazines and reviews are placed. The cases between the columns are placed on a marble plinth in the form of two steps 1 ft. 9 in. high, the total height from floor being 10 ft. 1½ in. to top of cornice, the height in the clear for books being 6 ft. 6 in. The spaces between the first and second steps of plinth are fitted with gratings for extracting the foul air from the room.

On the same floor as the reading-room the arms of the cross are arranged into the following rooms—viz. the entrance vestibule, with the trustees' room on the right and president's public office on the left, occupy the south arm; the architectural library is placed in the east arm, with a separate reading-room, and balancing the latter are the Greek and Latin seminar rooms; the law library, with its conference room and dean's office, is placed in the north arm; and the left is chiefly administrative—librarian's room, accession room, cataloguing and delivery and temporary periodical room, which eventually will occupy the space used by the law library when a special building is erected for it.

The stack room is placed in the basement under the main reading-room. The stacks are of oak, and run from north to south, with a 5-ft. central gangway east to west. They are 18 in. wide and 2 ft. 11 in. between. The shelves are 2 ft. 6 in. long, having 2-in. divisions between them. They are 8¾ in. by ¾ in., the first one raised from the floor 3 in. The floor to the second stack is of wood, carried on wooden joists. The height from the lower floor of stack to the floor of reading-room is 15 ft. 4 in. Each floor contains 75,000 volumes. These stack rooms are inadequately lighted with borrowed lights from the corridors, and therefore have to depend on artificial lighting. There is also a stack room below the law library, from which it is reached by stairs, with book-lift adjoining, adjacent to the attendants' desk.

The law library is 60 ft. by 37 ft. 6 in.; it is fitted with tables 2 ft. 11 in. in width and 14 ft. in length—two tables to each of the seven rows. They are 4 ft. 1½ in. apart, and seat six readers on each side. The room is panelled to a height of 7 ft. 6 in. on window side and 10 ft. 6 in. around the three other sides, with shelving fitted in. Extra space for readers is obtained by a small iron gallery, about 5 ft. 6 in. in width, placed around three sides of the room, fitted with sixteen small tables accommodating two readers each. From this gallery doors on either side lead to the law professors' rooms. The number of readers provided for is: in gallery, 32; main floor, 189; total, 221.

The architectural library is about 37 ft. 6 in. by 65 ft., capable of shelving 12,000 volumes. It is divided into five bays by cases forming alcoves, and tables 3 ft. by 9 ft. are placed in each. Those next the outer wall are well lighted, but the ones in the inner alcoves are dark. The division cases separating alcoves next windows are 2 ft. wide and 8 ft. 11 in. to top of cornice. They have 4-in. panelled ends, and 2 ft. 6 in. shelves in the clear between 1⅞-in. uprights, and are four divisions in length. The shelves are of ¾ in. wood, grooved for iron runners. Portions of the upper walls are also shelved, and where this occurs an iron gallery, 9 ft. 4 in. from floor, is placed. The total height of room is 18 ft., and the accommodation provided is for forty readers.

Over the architectural library and in the corresponding arm over the delivery room are placed the seminar rooms, with their stacks. These are very well schemed. Each room is 12 ft. by 14 ft., and there are seven of them: the whole of them can be thrown into one room, being divided by 3 in. oak-framed divisions, which can be drawn out easily. On the inner sides of these rooms are arranged the steel stacks, with a passage-way next wall, and from which, between the stacks, the rooms are reached. One table is placed in each room, 3 ft. 10 in. by 7 ft. 6 in., to seat eight readers, and in a corner of each of the rooms is fitted a case with twelve locked drawers and twenty-seven open pigeon-holes for students' papers.

There are two floors of stack, with a total capacity in each wing of 100,000 volumes.

On the third floor are the lecture rooms. Eventually the two wings over the seminar rooms will be fitted in a similar manner to them: at present they are only temporarily divided. The galleries to the main reading-room are at this level and are used partially for stacking books and for visitors viewing the reading-room. The stacks in these galleries are in two heights, and in the four contain 64,000 volumes.

Architecturally this building is very fine, and to obtain this fine effect it is evident that one or two utilitarian points have been rather sacrificed: this applies particularly to the arrangements for the storage of the books below the main reading-room, where light is greatly needed. On the other hand, the general arrangements of the reading-rooms with their fittings and the special study rooms are all particularly good.

The total shelving capacity for books is for 1,050,000 volumes, and the cost of the completed building was £240,000.

Architects: Messrs. McKim, Meade and White, New York.

NEW YORK UNIVERSITY LIBRARY.

The Library at the New York University is much smaller than the Columbia University Library, and the scheme of the plan is decidedly more compact. The general outline—that of a Greek cross—is the same, the entrance arm being longer than the others. The extreme width of the building is 102 ft., and from the outer face of the column of the portico to the west wall 160 ft. As in the Columbia Library, the great feature is the domed reading-room, but it is circular on plan instead of being octagonal, and the books are stacked round about it and not below, and are therefore generally more accessible. The main entrance is from the east front, and from the large hall, with its staircases either side leading to the auditorium below, a broad marble staircase of twenty-four steps 12 ft. wide leads to the reading-room. Before the reading-room is entered a small domed vestibule is reached, and from it to the right and to the left are the chancellor's and librarian's rooms, and over these rooms are the two cataloguing rooms and the periodical and newspaper reading-rooms.

The reading-room is 54 ft. 3 in. diameter to the inside face of the eighteen marble columns, and has an ambulatory around 5 ft. between the faces of the columns. Between the columns glazed cases for large books or portfolios of the same height as the tables are arranged, so that readers in reaching their seats do not disturb one another, the approach to the tables being only between certain of the columns, conveniently arranged near the stairs to the seminar rooms and the main entrance to the room. The central portion of the room is occupied by a circular table 20 ft. in diameter, seating twenty-four readers. There are besides eight tables 12 ft. by 3 ft. 8 in., each seating eight readers: these are placed radiating towards the centre, and between these long tables are smaller ones 3 ft. by 5 ft., each seating four readers, the seating capacity of the room being for 120 readers. The delivery desk is placed facing the ambulatory and occupies the second bay to the left on entering; adjacent to it are the stairways leading to the various seminar and reading rooms, and it has telephone connections with all the rooms in the building. The two bays either side directly on entering are fitted for the card catalogue, and suitable tables for its use are placed adjacent. The whole of the space between the columns of the wall of the ambulatory is shelved for books. It is three tiers in height, each 7 ft. 6 in., with galleries over the ambulatory to the second and third floors. The first galleries are arranged between the columns, one to each bay, and only project slightly. Each bay is divided into three divisions vertically, the central division being hung as a door and opening with all its books inwards. The second gallery, with its glazed floor, goes around the whole room, and nearly projects to the outer face of the inner columns. Thus nearly the whole of the circular wall of the main reading-room has been utilised for the storage of books. The doors leading to the book rooms are themselves book stacks swinging on central pivots.

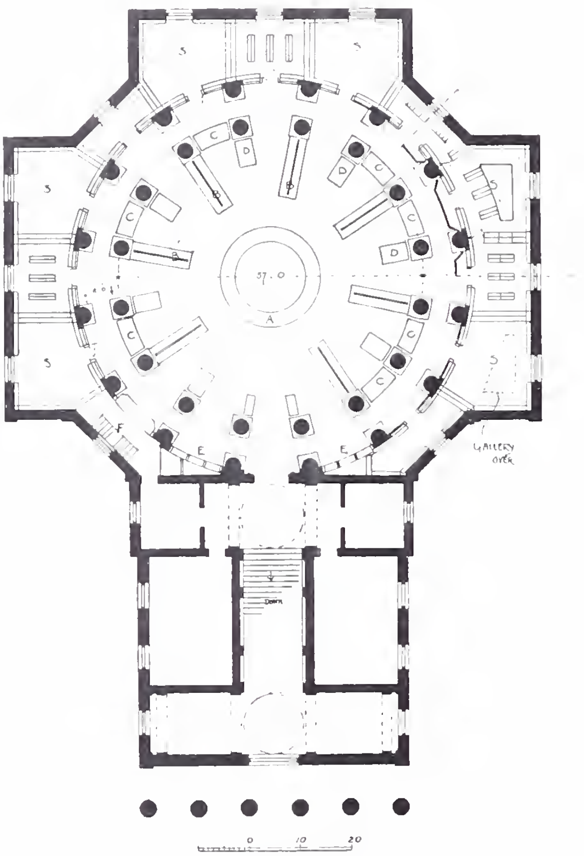

FIG. 3.—THE LIBRARY, NEW YORK UNIVERSITY, NEW YORK, U.S.A.: MAIN FLOOR PLAN.

MESSRS. MCKIM, MEADE, AND WHITE, ARCHITECTS.

A, Circular Table, 20 ft. in diameter, for 24 readers. B, Tables, 12 ft. by 8 ft., for 8 readers. C, Cases for Booking. D, Tables, 5 ft. by 3 ft., for 4 readers. E, Card Catalogue. F, Delivery Desk. S, Seminar Room.

Around the base of the dome is another gallery where thousands of books, when necessary, may be shelved. Unlike the Columbia University reading-room, here the lighting is by a circular skylight 20 feet in diameter in the centre of the dome.

From the ambulatory on the main floor and the galleries on the third and fifth floors are arranged eighteen seminar rooms, which are devoted each to a special subject. As will be seen from the plan, these rooms are curious in shape, averaging 18 ft. by 14 ft., each provided with two tables, 3 ft. by 5 ft., for four readers. Shelving is placed all around the room, and at a height of 7 ft. 6 in. a glazed gallery with more shelving and stacks projects from each wall. The capacity of the shelving already installed in the building is for a quarter of a million volumes. Should it be necessary at any time to increase the shelf room, this can be done by using the large auditorium below the reading-room for stacks, and would give the library a total capacity of a million volumes. The galleries to this auditorium are sometimes used as a reading-room.

The principle of the seminar rooms is excellent. They are very conveniently arranged, but the shape of them is awkward and the size small, and the upper ones with the top lighting become very hot in the summer.

The arrangement of shelving between columns to circular wall of reading-room, with the galleries for approaching it, is very well managed, and the effect good. The position of the card catalogue so near the entrance and the way it is fitted into the wall is most convenient.

Architects : Messrs. McKim, Meade and White, New York.

PENNSYLVANIA UNIVERSITY LAW LIBRARY.

The library of the Law School at the University of Pennsylvania has a remarkably well arranged and convenient plan. It is a building of two stories, with a frontage of 175 ft. and a depth of 105 ft. Practically the whole of the first floor plan is occupied by lecture and class rooms, and it is the second floor plan, where the book stack and reading-rooms are placed, that calls for comment.

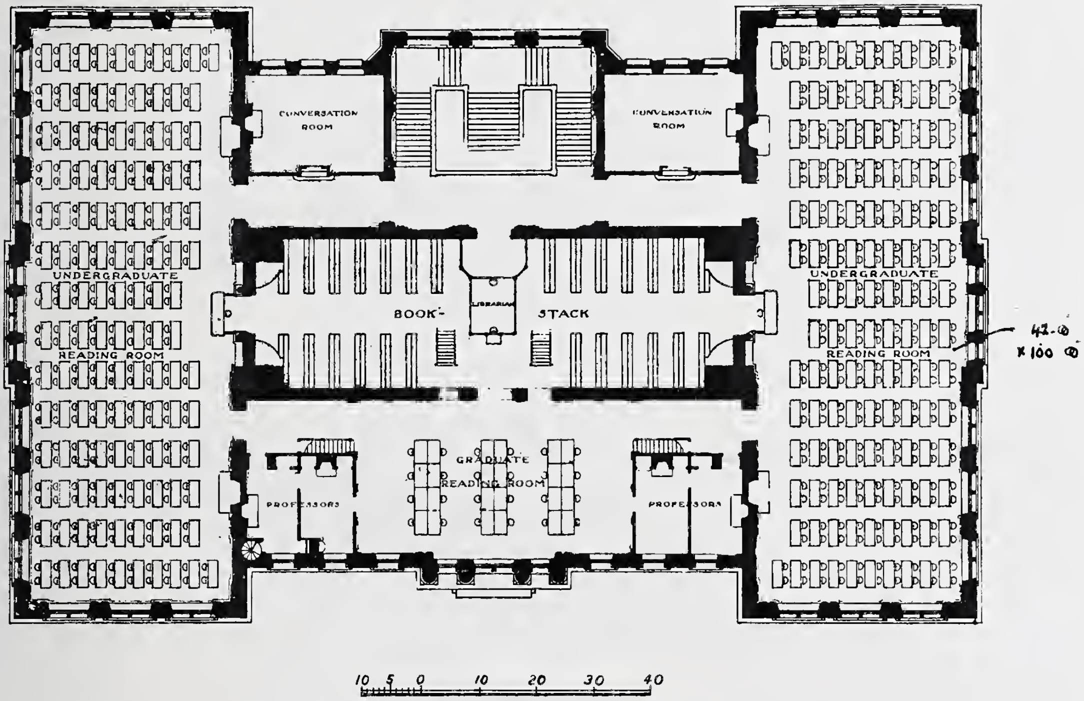

FIG. 4.—LIBRARY OF THE LAW SCHOOL, PHILADELPHIA UNIVERSITY, PENN.: FIRST-FLOOR PLAN.
MESSRS. COPE AND STEWARDSON, ARCHITECTS.

The book stack occupies the centre of the building, there being entrances to it from each of its four sides, the landing of main staircase, the two large undergraduates' reading-rooms at each end of it, and the graduates' reading-room opposite the staircase and entrance. To the undergraduates' reading-rooms are delivery counters, 2 ft. 4 in. wide and 2 ft. 9 in. high, and with gates at sides, each with an attendant. From the graduates' room there is free access to the stack room.

There is room for five floors of stacks: at present only one floor is fixed. The width between stacks is 3 ft. 6 in. and the central gangway is 7 ft. 6 in. The librarian's office is placed in the centre and is enclosed by glazed screens. The whole is top-lighted the full length, the roof being a simple steel trussed one, and additional light is obtained for the two top floors by windows over the main staircase. All the entrances from reading-rooms to stack room have two iron shutters.

Either side of the main staircase are two conversation rooms, each 22 ft. 6 in. by 18 ft. The two large undergraduates' reading-rooms are each 42 ft. by 100 ft., well lighted on three sides. Each room is fitted with 126 dual desks for 252 readers. These desks are 5 ft. 4 in. long, 2 ft. wide, and 2 ft. 6 in. high. The space between front to back is only 1 ft. 8 in. and the gangways between them 2 ft. 5½ in. Each desk has two locked drawers, and is fitted with a small brass upright ticket holder and electric bell to delivery counter. A book being wanted by a reader, the ticket with number of desk is inserted in the holder, and the bell to the attendant's desk rung, which gives the number of row of desk; a boy is then sent to collect the ticket, and the book is brought without the reader being disturbed. The desks in these rooms are much too crowded.

The reading-room for the graduates is much smaller—only 27 ft. by 48 ft., accommodated to seat only twenty-four readers. The desks are arranged in three rows each, seating four readers on a side: they are 5 ft. wide and 18 ft. long. There are three drawers to each desk, the tilted drawers for books on the left of the reader being a particularly happy idea: practically it forms a shelf for eight or nine volumes without crowding the desk. The lavatories are arranged in a mezzanine floor off the half-landing. There are four professors' rooms either side of the graduates' reading-room, and four more over them. A gallery connects these upper rooms with the stack, passing through the graduates' reading-room.

Architects: Messrs. Cope and Stewardson, Philadelphia.

TOWN LIBRARIES.—DIVISION I.

The four buildings chosen to illustrate the planning of large town libraries are very unlike each other. In each case the motive of the design has been a different one. The first built—the one at Boston—is much larger than either of the others, and so is difficult to compare with the others. One thing is clear, however, and that is the growth of the free access policy and its great effect upon the plan. Not only is it necessary for the general reading-room to have, as in the Bates Hall at Boston, the walls shelved for books of reference, but the borrower must also be allowed shelves to select from; and the plan adopted at Newark of placing open shelf rooms of ample area either side of the delivery hall, where thousands of books may be stacked, is an excellent one. At Providence a different method is adopted. The shelves are placed between the entrance hall and the delivery space. This is not so good, the control being inadequate. The positions of the stack rooms in three out of the four plans are in the rear of the main building. In Newark they are nearly isolated—a great advantage should fire occur in the main building.

The public libraries at Chicago, Milwaukee [see plan, fig. 5], and Jersey City are all particularly worthy of study if space permitted.

BOSTON LIBRARY.

The Boston Library* is perhaps the best known of all the American libraries. It was really the first great monumental one of the present library movement, and architecturally it is of very high merit, and its influence is much in evidence in many of the very recent ones. Its plan is not good from the librarian's point of view, but the librarians know now pretty well what is wanted, whereas fifteen years ago they were doubtful and uncertain, and library science has moved very rapidly indeed since, so that to-day obviously recent planning should be infinitely better than that done early in the movement. It was in 1887 that the trustees of the library decided upon the architects, and the building was started in November 1888, but it was not until 1895 that it was opened to the public. The site is nearly square, and faces streets on three of the four sides. Its frontage is 225 ft., and the depth 227 ft. The great central courtyard is a magnificent feature with its colonnade on the three sides, especially as seen from the half-landing of the great stairway leading to the main floor of the library.

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* See plan, JOURNAL R.I.B.A. Vol. VI. p. 218.

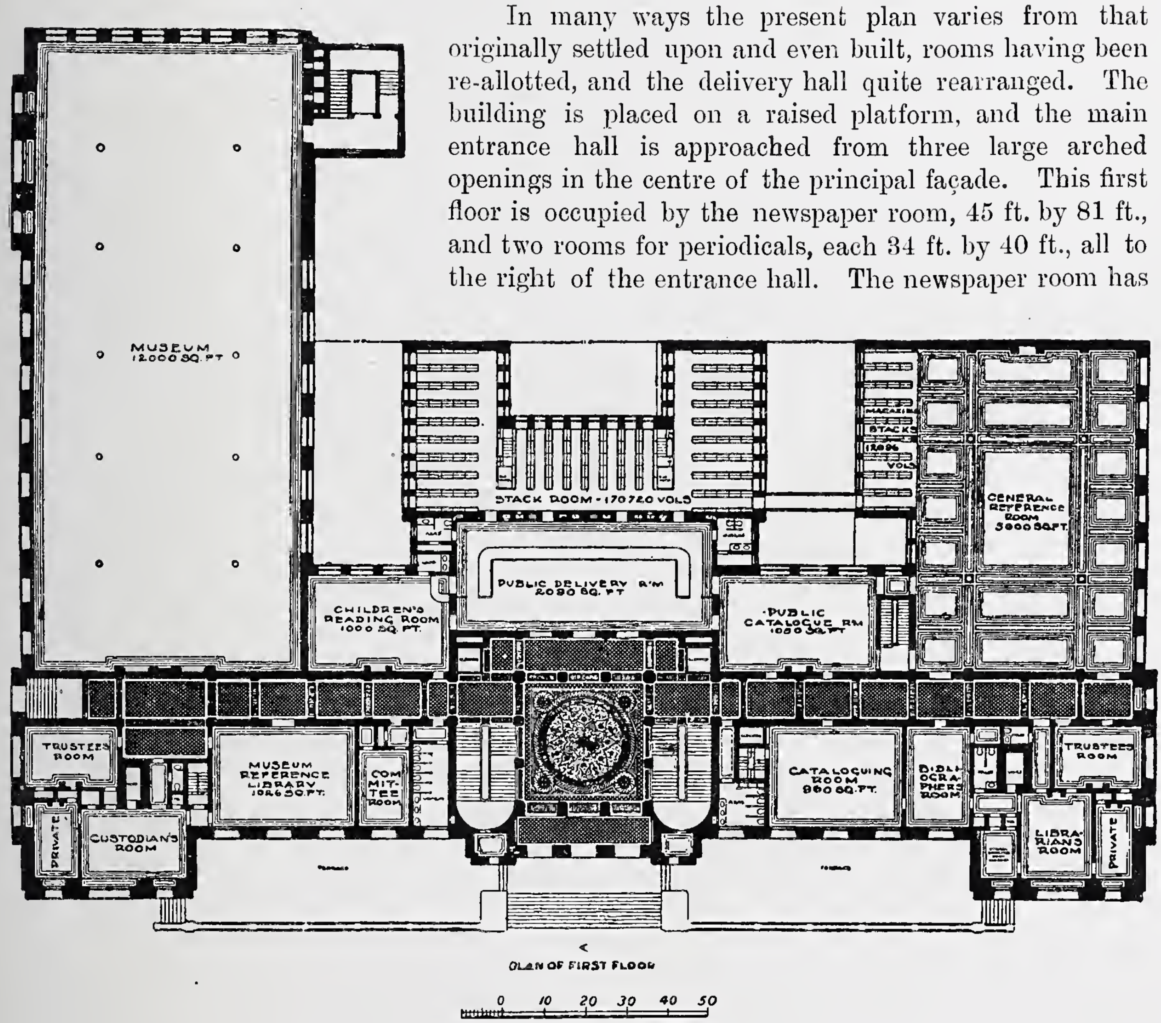

MUSEUM 12000 SQ. FT
STACK ROOM - 170720 VOLS
MAGAZINE STACKS 12096 VOLS
GENERAL REFERENCE ROOM 5000 SQ.FT.
PUBLIC DELIVERY R'M 2080 SQ. FT
CHILDREN'S READING ROOM 1000 SQ. FT.
·PUBLIC CATALOGUE RM 1080 SQ.FT
TRUSTEES ROOM
MUSEUM REFERENCE LIBRARY 1026 SQ.FT.
COMMITTEE ROOM
CATALOGUING ROOM 860 SQ.FT.
BIBLIOGRAPHERS ROOM
TRUSTEES ROOM
PRIVATE
CUSTODIAN'S ROOM
LIBRARIANS ROOM
PRIVATE
PLAN OF FIRST FLOOR
0 10 20 30 40 50

FIG. 5.—PUBLIC LIBRARY, MILWAUKEE, WIS.: PLAN OF FIRST FLOOR.

MESSRS. FERRY AND CLAS, ARCHITECTS.

In many ways the present plan varies from that originally settled upon and even built, rooms having been re-allotted, and the delivery hall quite rearranged. The building is placed on a raised platform, and the main entrance hall is approached from three large arched openings in the centre of the principal façade. This first floor is occupied by the newspaper room, 45 ft. by 81 ft., and two rooms for periodicals, each 34 ft. by 40 ft., all to the right of the entrance hall. The newspaper room has a row of five columns down its centre, and on the square bases of these, to a height of 4 ft. 7 in. from the floor, are placed sloping newspaper racks 2 ft. 8 in. wide, four to each column; and also between them are placed upright stands 7 ft. long, each capable of holding twenty-eight newspapers, fourteen on each side. Along the walls below the window sills are the newspaper desks. Altogether provision is made for 325 newspapers. Seven large tables are provided, each 12 ft. by 36 ft., seating four on each side. Chairs are also provided in rows of six, placed back to back, thus largely increasing the seating accommodation. The room is lighted on two sides, the sills being 8 ft. above the floor. The first periodical room is used as a reference room, and in it are stored the recent numbers in cases along the walls and in a gallery around three sides of the room. It is seated for thirty-two readers at four tables. The other periodical room is used for the readers of current numbers, and in it more than 600 are displayed on cases placed against the walls, as well as in rests down the centres of the six tables. It is seated for forty-eight readers.

Nearly the whole of the other rooms on this floor are used for administrative purposes. The catalogue and shelf department is 45 ft. by 81 ft., and adjoining is the receiving and ordering department. In the left hand far corner of the building is placed the stack, returning half round two sides of the courtyard. It is the second floor of the stack at this level. In the opposite corner is placed the bindery, and adjacent to it the printing department. There are besides rooms for newspaper files, 32 ft. by 36 ft., and the branch department, 17 ft. by 68 ft.—both adjacent to the stack; also a reception room, cloak room, public telephone room and public lavatories. In a mezzanine floor (level with the third floor of stack) are galleries around the periodical, reference, and newspaper rooms, connecting with periodical stack room, 23 ft. by 34 ft., and in these galleries are cases with drawers in which are placed the current numbers of the periodicals before being bound. Ample luncheon and locker rooms are provided for the staff on this floor between the stack and the catalogue department. The newspaper files room is also provided with galleries at this level. The stack at its third floor level is of a greater area than either of the other floors. It is 36 ft. by 116 ft. one way and 40 ft. by 63 ft. the other: unfortunately at this floor level it is inadequately lighted.

The great feature of the library is the reference reading-room, called the Bates Hall, which occupies the whole of the front on the second floor. Its two ends are apsidal and separated from the main central portion by screens, partially open, used as bookshelves. In the right-hand or northern apse are shelved the maps, dictionaries, encyclopædias, &c., and the southern one is used as the public card catalogue room, which is also approached from the lending delivery hall. The total length of the Bates Hall from end to end is 217 ft. by 40 ft. wide, and the crown of the barrel ceiling is 50 ft. from the floor. It is lighted by thirteen large semicircular-headed windows on the front and two at each of the ends, the sills being kept well above the bookshelves below them. It accommodates 264 readers at thirty-three tables. There are two rows of tables, each 10 ft. by 3 ft. 6 in. and 30 in. high, provided with eight chairs each.

Between each of the pilasters are fixed oak bookshelves 11 ft. 9 in. wide, standing on a marble plinth 1 ft. 3½ in. high; the height of the space for books is 5 ft., and the total height of case to top of cornice is 7 ft. 9½ in.: horizontally they are divided into three divisions. In these cases around the room are placed about 8,000 books of reference. The attendant's desk is placed in the centre of the room opposite the main entrance: here books are changed and returned for use in the hall only. The books are brought from the stack on trucks with rubber-covered wheels.

The lending delivery hall is to the right as one approaches from the main stairs. It is 33 ft. by 64 ft., and is fitted amply with chairs, tables, bulletin boards, and shelves with recent books. Between this delivery hall and the stack is the issue department. The most noticeable feature here is the circle of pneumatic tubes to the left, through which the application slips are sent to all parts of the book stack. An apparatus has been installed in the issue department novel to library use. This is a "pick-up carrier." Its purpose is to transport the various slips between four points in the issue department doing business with one another—the issue and return desks, the record trays, and the pneumatic terminals.

At the stack end of the issue department are the book elevators, and the book carrier to these is a cable railway operated by electricity. Each story of the stack is equipped with an 8 in. track running its entire length. Each track has three stations, placed at convenient intervals, and each station has its own carriage—a low wire basket capable of containing all but the largest books. Girls are employed as "runners" on each floor to carry the books called for to the baskets. When the basket is loaded it is pushed from the station to the main track, where it grips the cable and is carried towards the issue department at the rate of 500 ft. a minute. As the stack is in six stories, only one of which is on a level with the opening to the issue departments, five miniature elevators are provided—one for each of the stack stories above or below the level of the window. When the basket approaches it automatically slips the cable, and its speed having been gradually slackened it slides upon the elevator. If the elevator is "busy" the basket is held until its turn arrives. If it is not "busy" the shock releases a pin, and the motor below hoists or lowers it, as the case may be, to the window. The librarian's room with its private office is placed adjacent to the issue department. The children's rooms balance the issue department on the north side: the larger is 34 ft. by 65 ft. and the other 37 ft. by 40 ft. The large room is fitted with seven elliptical tables 7 ft. by 5 ft. and 2 ft. 3 in. high, with eight chairs around each. The shelving accommodation in the two rooms is for 8,000 volumes. In the small room are six tables 3 ft. 6 in. wide by 12 ft. long, with twelve chairs to each. From this room the lecture hall, 40 ft. by 86 ft., can be reached. The patent room, 36 ft. by 42 ft., adjoins the stack room. The top or third floor is wholly arranged for special libraries. Alcoves—about 12 ft. 6 in. centres—are placed around the whole of the outer walls. They have galleries around them with shelving. In each alcove is placed a table seating eight readers, arranged next the windows which look into the courtyards, and altogether there are twenty-nine alcoves. There is also a specially fitted room, 27 ft. by 51 ft., for music, and two rooms, each 35 ft. by 66 ft., one used for a special collection and the other as a fine arts room.

It is a little unfair, perhaps, to criticise this plan, because of the rapid developments of library planning since its creation. Still, there are many points in it that are not good, particularly the position of the fine reference reading-room in relation to the stack room, the cramped position of the delivery hall, and the unfortunate shape and position of the stack room, necessitating the use of elaborate mechanical arrangements for carrying the books.

The cost of the building was £473,000, and the shelving capacity, at present, is for 750,000 volumes. The architects were Messrs. McKim, Meade & White.

NEWARK PUBLIC LIBRARY.

The Public Library at Newark, N.J., was only completed and opened on 14th March 1901. It is evident that a deal of thought has been spent in its arrangement and planning. A great point has been made of "free access" to the books, both outside and inside the stack. The site is an open one with no curtailments. The main building has a frontage of 103 ft. and a depth of 157 ft. Connecting this building to the two stacks in the rear is a small block about 30 ft. by 30 ft. Each stack room is 60 ft. by 39 ft. At present only one is complete—the left one being only built at the basement level—and contains the engines, boilers, and the electric plant. The general arrangement of the rooms on each floor is as follows:

On the first floor are placed the newspaper reading-room, children's room, public bicycle check room, public toilets, administrative rooms (including stock room, binding, packing room), delivery station room, repair room, and, to the rear, the stack room and boiler rooms.

On the main floor is the general reading-room, occupying the whole of the front of the building, as at Boston. The delivery room is in the rear, opposite the landing of main stairs, and on either side of it are the two open-shelf rooms for fiction and biography. The delivery room, with its counter and working space, occupies the connecting block between the main building and the stack rooms. The public catalogue room and the librarian's public room are placed at the sides, between the general reading and the open-shelf rooms.

On the third floor are the reference room, patents room, art-book room, cataloguing room, various staff rooms, and two special study rooms near the stack rooms.

The fourth floor consists of a lecture room, the museum, and art gallery.

The children's room, 29 ft. by 32 ft. and 23 ft. by 30 ft., is L-shaped in plan, and occupies the front corner of main building—so easily accessible from the street. Directly opposite the entrance is placed the attendants' enclosure, 16 ft. by 10 ft., with counter all around, 2 ft. 1 in. wide and 2 ft. 6 in. high, fitted inside with shelves and with a gate at the back. In the space between the entrance and counter, divisions are placed to direct the ingoing and outgoing readers. The ways are 1 ft. 3½ in. clear. It does not answer well, as the division is not carried to the floor, and children slip out. There are six tables, 3 ft. by 5 ft. by 2 ft. 4 in. high, seating ten readers each—decidedly too many to a table. In the portion of room directly to the left of the entrance two steel stacks are placed, 1 ft. 4½ in. wide and 9 ft. long, and of the same height (5 ft. 2 in.) as the steel shelving placed all around the walls of the room. These isolated stacks form small alcoves, which are used as the reference portions of the room. The shelving capacity of the room is for 8,000 volumes.

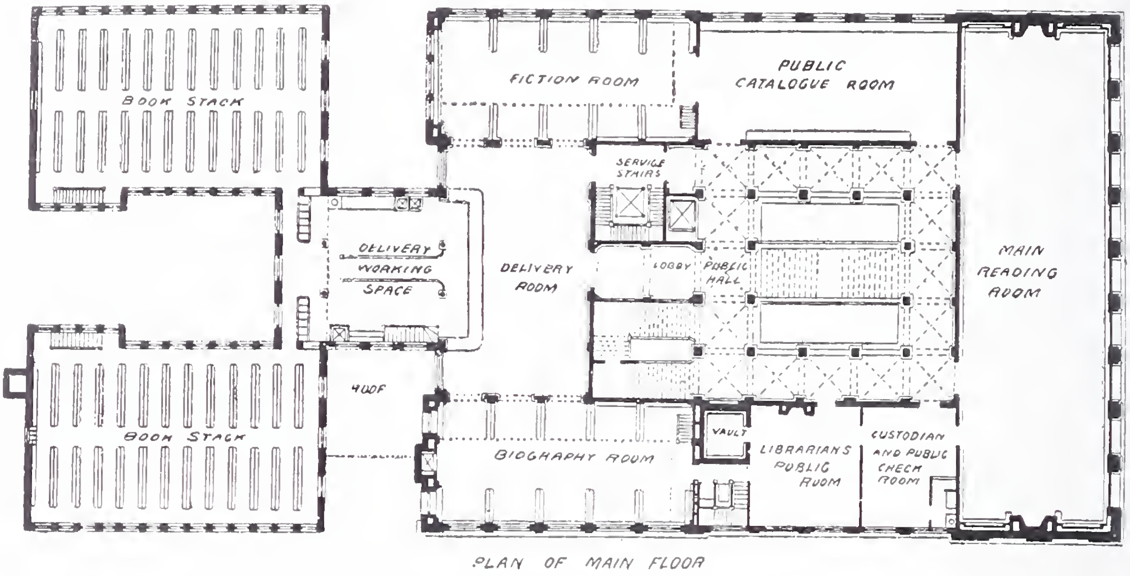


FIG. 6.—PUBLIC LIBRARY, NEWARK, N.J.

MESSRS. RANKIN AND KELLOGG, PHILADELPHIA, ARCHITECTS.

Dimensions of Rooms.—Main Reading Room, 29 ft. by 95 ft. Public Check Room, 18 ft. by 23 ft. Librarian's Public Room, 21 ft. by 23 ft. Public Catalogue Room, 23 ft. by 51 ft. Delivery Room, 28 ft. 6 in. by 48 ft. Biography Room, 24 ft. by 51 ft. Fiction Room, 24 ft. by 51 ft. Delivery Working Space, 28 ft. by 36 ft.

The newspaper reading-room occupies an exactly similar position as the children's room to the right. It can be approached either from the main entrance or the side. Adjoining it is the men's lavatory. The binding and repair rooms are placed adjoining in the left-hand far corner next stack room, one being 24 ft. by 38 ft. and the other 19 ft. by 20 ft. The delivery station room, 28 ft. by 30 ft., is placed between the stack rooms and the main building. From this room small lifts run to all the floors of stack. The floor of this room is some feet above the level of the road outside, so that when the delivery waggon backs the cases of books for the stations can easily be shifted on to it. The sizes of the boxes for the books are 1 ft. by 1 ft. by 3 ft. 3 in. In the centre of the room is a long table, 2 ft. wide and 3 ft. high, with cork linoleum top, for taking these boxes; and, adjoining, a table, 12 ft. by 3 ft., with three tapered divisions 15 in. high, with table top 2 ft. 9 in. from floor, in which the books for the separate boxes are checked and despatched. The first floor of stack rooms is level with this floor of main building.

Ascending the main staircase to the second floor, one enters through a short corridor directly into the delivery room, which is 28 ft. 6 in. deep by 48 ft. wide. The open-shelf rooms on either side, each 24 ft. by 51 ft., are fitted with steel stacks for books of fiction and biography. To get to these rooms the reader has to pass through one of the turnstiles in the delivery counter, which is divided into three—the central portion is 18 ft. 6 in. wide, and the other counters for changing and registration on either side are each 7 ft. 6 in., and between are the turnstiles for entering and leaving. There are two turnstiles to each opening, each 15 in. wide. This counter necessitates three attendants at least—sometimes four. The openings between the columns to these rooms have large fixed seats between them, so preventing access from the delivery room to the books without passing the turnstiles. The steel stacks in them are somewhat differently arranged from that shown on the plan. There is only one row to each room: they are 12 ft. long and 8 ft. 6 in. apart, and are placed 18 in. from the wall, so there is ample room for the circulation of readers choosing books. A gallery with a glass floor is fixed over, so that another floor of stacks may be erected when necessary. Between the delivery counter and the stack room is the delivery working space, 28 ft. by 36 ft. In the two enclosed spaces either side of gangway leading to the stack rooms a great deal of the work of the library is done. Rather inconveniently placed in relation to the delivery room is the public catalogue room. It is 23 ft. by 51 ft., and in it the card catalogue is arranged in desks around the room and down its centre, instead of in the usual upright stands with small drawers: it therefore necessitates a great deal of space for its display.

The main reading-room is placed to the front and occupies the whole width of the building: it is 29 ft. by 95 ft. It is entered from the gallery around the well of the entrance hall at two points. Like the Bates reading-room at the Boston Library, it is lighted from the front by a series of large windows. The room is oak panelled to the height of the window sills, which is 8 ft. The dado moulding is 3 ft. 10½ in. high, and between each bay above this moulding are placed vertical cases for the periodicals 1 ft. 6 in. high. There is no book shelving. It is fitted with fifteen tables, each 3 ft. 4 in. by 9 ft. 9 in., placed in two rows, and with nine armchairs to each, and one round table 6 ft. diameter, accommodating 140 readers altogether. The attendant's desk is placed next the public check room. The height of the rooms of this second floor is 20 ft.

The reference rooms on the third floor are particularly well arranged. The assistant's desk is placed just opposite the entrance, and all readers have to pass it, the doors which originally opened from the patents room and art-book room to the gallery surrounding the staircase well having been closed. The top floor of the stack is level with this floor, and is quite open to it and reserved for reference books. A locked gate is placed at the stairs so that the lower portions of the stack rooms cannot be reached. Three special study rooms, 10 ft. by 13 ft., are placed adjacent over the working space on the floor below.

The reference room consists of two rooms 24 ft. by 56 ft. and 28 ft. 6 in. by 50 ft. They are both divided into alcoves by steel stacks, which are 7 ft. high and 9 ft. long, placed at 10 ft. centres; in each alcove is a table 2 ft. 3 in. by 3 ft., with seats for four readers.

In the patents room (23 ft. by 51 ft.) the stacks, which are 21 in. wide by 6 ft. long, are arranged in a similar manner, but against the inner wall, and the four tables, each 5 ft. by 3 ft. 3 in., accommodating sixteen readers altogether, are placed at the piers between the windows. Through the patents room, the art room, 29 ft. by 42 ft., is reached. Here two large leather-covered and padded rests for large books are placed in the centre of the room, 3 ft. 4½ in. high by 5 ft. 3 in. wide and 7 ft. 6 in. long, divided into three divisions on each side. The front portion of the room is divided into four alcoves by wider stacks than used in the other rooms, the lower portion of each being 4 ft. wide by 3 ft. high, and the upper portion 2 ft. wide by 4 ft. high.

The stack room is shelved to take 33,600 volumes on each floor, and there are six floors, the first being level with the first floor, the third with main floor, and the sixth with reference floor, providing a total shelving capacity for over 200,000 volumes. The stacks are 12 ft. long, divided by a centre passage-way 4 ft. wide, with side passage-ways 3 ft. wide. The uprights are of steel, the shaped ends and rests for shelves are of copper, the shelves are of wood, and the floors of glass. A lavatory basin is placed at the end of each central gangway, and at each corner of the stack-room on each floor dust flues are provided. They are 12 in. by 12 in., with galvanised iron shutters: the flue is covered with wire netting to prevent books from falling, and the particles of dust are sucked down out of the building by fans.

All the windows of the stack room are fixed, to prevent dust getting in, and on the outside for cleaning purposes two iron galleries are placed at the third and fifth stories: the windows placed between each row of stacks have their sills only 12 in. from the floor, so well lighting the bottom shelves of books. On each floor of the stack room is a telephone, and automatic electric book lifts are placed just outside, in a gallery overlooking and open to the working delivery space. Its position here is necessary, for when the second stack room is built the lifts will be common to both stacks.

The upper floor does not call for comment. There are some excellent points in the planning of this building. The arrangements for the open-shelf rooms, delivery hall, work delivery space and stack rooms are very good indeed, and the approach to these rooms from the main entrance is very direct. The cost of the building was £60,000, and it was designed by Messrs. Rankin and Kellogg, of Philadelphia.

PROVIDENCE PUBLIC LIBRARY BUILDING.

The Public Library building, Providence, R.I., was completed and occupied in March 1900. A competition limited to the architects of Providence resulted in Professor W. R. Ware selecting the plans of Messrs. Stone, Carpenter, and Willson. Owing to successive liberal gifts these were much modified and enlarged, and it was not until 1896 that building operations were commenced. The site is quite isolated and nearly 200 ft. square. The building itself, consisting of the main block, 139 ft. by 58 ft., and the stack building at the back, 108 ft. long and of varying widths, covers an area of more than 11,600 square feet. The boiler house is placed outside the building in the rear to the right. In the planning of the Providence library it is evident that the librarian's point of view was well considered, and his advice invited in the attempt to solve a problem which had not been altogether successfully coped with. The Providence plan is therefore an interesting one, coming as it does between the Boston and Newark libraries in date.

The basement, which owing to the fall of the ground from front to rear is particularly well lighted, contains more stack-room accommodation than any of the floors above, the whole of the space below the delivery room being occupied. The men's staff room, fitted with steel lockers and with lavatories adjoining, men's and women's public lavatories, packing room, supply room, bindery, are all arranged in the front block. In the rear to the right is a bicycle yard 25 ft. by 34 ft., fitted up on each side with holders, with an entrance to the building and to the back streets.

The first floor includes the three rooms which every visitor needs to find directly accessible to him—the delivery room (80 ft. by 50 ft.), in immediate contact with the stack and the two main reading-rooms; the periodical room (41 ft. by 50 ft.); and the reference room (41 ft. by 50 ft.), with small map room (16 ft. by 12 ft.). These three rooms together comprise an area of more than 7,800 square feet.

On the second floor are placed the lecture hall, 37 ft. 4 in. by 40 ft. 10 in. (seating capacity 110 persons), the children's department occupying two interconnecting rooms (one 24 ft. 6 in. by 40 ft. 10 in. and the other 18 ft. 3 in. by 18 ft. 10 in.). The standard library is a feature of this library: it has two interconnecting rooms (one 12 ft. by 39 ft., the other 19 ft. 6 in. by 20 ft.). There are also four interconnecting administrative rooms for the librarian, the auditor, records and trustees. All these are in the main building. Behind, over the delivery room, is a large educational study room, 27 ft. 6 in. by 36 ft., and beyond is the fourth stack story, 27 ft. 6 in. by 43 ft. 10 in., with the women's staff room, 12 ft. by 20 ft., and their toilet room adjoining.

The third story is pre-eminently "the special library floor," providing laboratory facilities in connection with works on art, industrial literature and other departments which are necessary for a manufacturing centre. There are two reading-rooms—the industrial 16 ft. by 18 ft., and the medical 16 ft. by 27 ft. 6 in.—with their stack rooms for patent literature and medical literature, each 21 ft. 4 in. by 39 ft., adjoining. There is also a room 58 ft. by 43 ft. 6 in. divided into alcoves for special libraries on art, music (including a collection of musical scores for circulation), historical collections, &c. The whole of these rooms are top-lighted, which is unfortunate, the heat in the summer months being very great indeed. This third floor is connected with the sixth floor of stack, which is also top-lighted here, and beyond the stack are placed two study rooms over the two below on the fifth floor of stack. Two of these study rooms are 12 ft. 6 in. by 15 ft., and two 12 ft. 6 in. by 18 ft. 10 in. The stack building (the central one of three to be erected at some time in the future) contains besides the stack and the four study rooms at the back, &c., already described, the greater portion of the delivery room, 48 ft. by 48 ft., which projects into this part of the building, so that an important point is thereby secured—the delivery counter is placed in an ideally

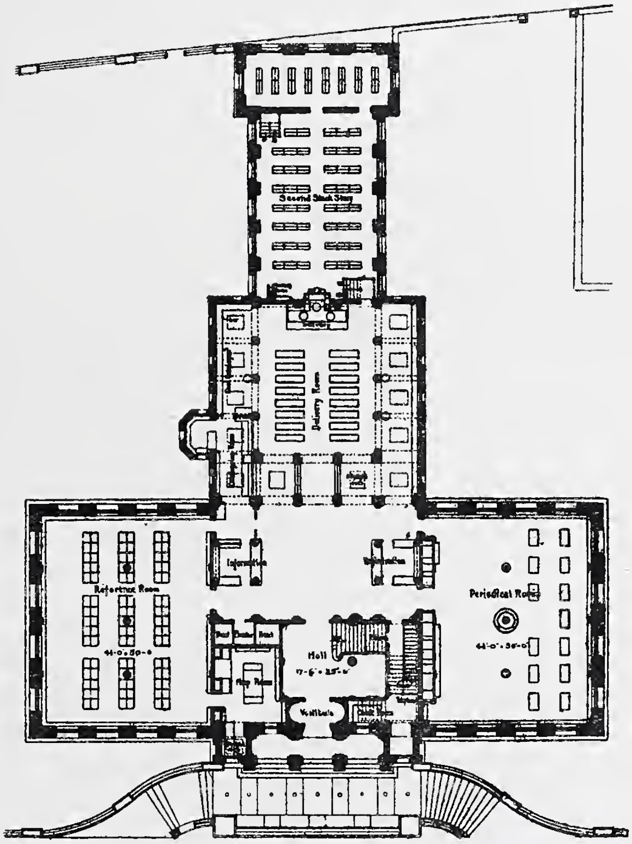


FIG. 7.—PUBLIC LIBRARY, PROVIDENCE, R.I., U.S.A.; FIRST FLOOR PLAN.
MESSRS. STONE, CARPENTER, AND WILLSON, ARCHITECTS.

favourable position, with stack above and stack below as well as stack beyond. In what is really the inner main hall are the registration desk and information office, and between this hall and the delivery room beyond are placed between the piers the cases containing the new books and books of interest on special subjects engaging the public attention at the time. The delivery space proper is 27 ft. 6 in. wide by 36 ft. long, and is fitted with seating on each side similar to that shown on plan. Beyond is the delivery counter, about 14 feet wide and projecting five feet from the wall: there is room for three attendants behind it—two at the counter and one behind in the recess at the opening connecting with the stack rooms. Here is placed a shelf, and books are delivered direct from second and third floors. From the first, fourth, fifth, and sixth floors, small elevators are used. The level of the second floor of stack above delivery room floor is 3 ft. 7 in.

The ceilings to the two wings and to the two side approaches to the delivery room being much lower than those over the other portions, light is obtained over them, so ranges of lunette openings are possible by this means on three sides. Besides small windows, the wings also have skylights in each bay (see plan). In the right wing are placed the shelf lists, which are type-written and bound, and in the left wing the card catalogue, where a large table is provided as well as a shelf ledge all around the walls for standing to.

The cataloguing room is really cut out of the delivery room, and no doubt when an enlargement of the library takes place more room will be provided for it: its bay for small reference library for official use is a pleasing feature.

The reference room (41 ft. by 50 ft. and 16 ft. 4 in. high) is well lighted on its three sides, the sills of the windows being above shelves round the room: these are 5 ft. 3 in. high. Those to wall in which entrance occurs are 7 ft. high. It is fitted with six tables 12 ft. long and 3 ft. 6 in. wide, seating five readers either side, a total of ninety readers. The attendant's desk is placed in the right-hand corner next cataloguing room. The small map room off this room is conveniently situated.

The periodical room, of the same dimensions as the reference room, differs in arrangement from it. The far portion of the room is fitted with two rows of six small tables, 2 ft. by 4 ft., with four chairs to each: one large table is reserved for women. The room is shelved in a similar way to the reference room. The inner wall is fitted with cases containing drawers for the current numbers of periodicals, where they are kept previous to binding. In the centre of the room, arranged around a column, is placed a periodical stand containing spaces for just 200. The lower portion to a height of 4 ft. is circular, the remainder being octagonal. At a height of 3 ft. 2½ in. it has a 12 in. sloping rest. The lower portion has twelve divisions in its height, the first being 7½ in. off floor, and the upper portion fifteen divisions and is 2 ft. 7½ in. high.

The stack room at this level consists of a front portion 27 ft. 6 in. wide by 43 ft. 10 in. long, and the end building placed longwise to it 12 ft. 6 in. by 34 ft. 6 in. Each floor of the stack is 7 ft. 1 in. from floor to floor. The whole of the fittings of the stack are of steel, including the shelving. The gangways are of glass, 2 ft. wide, with a 3 in. air space each side between glass and shelf line, making space between shelves 2 ft. 6 in. The width of each stack is 1 ft. 10 in. and the ends are solid. The shelves are of steel, rounded front and back, enamelled, and are 10 in. wide. The walls are lined with 1 in. polished white marble, in slabs of one height, 6 ft. 7 in., and 2 ft. 10 in. wide. The 6 in. skirting is of polished black marble. The stacks are very well arranged, well-lighted, and not over-crowded, the only ill-lighted portion being the central space of the room below the delivery hall.

A special provision has been made for dusting books. On every stack floor a small closet is arranged for this purpose at one end, and all dust shaken from them into a hopper is drawn by a 1½-horse power fan, placed just below the roof and discharging the dust-laden air by a 6 in. pipe passing through it. There are two staircases between the floors of stacks, one at each end.

The room set apart for the standard library is a well-proportioned room with a barrel ceiling. It has fixed seating on two sides, and book shelves to a height of 5 ft. 3 in. on the other sides. The assistant librarian's desk is placed in this room and several small tables 1 ft. 8 in. high and 18 in. diameter are arranged near the seating. The special reading-room adjoining is 18 ft. 6 in. by 20 ft., also fitted with shelving.

The children's room (24 ft. 6 in. by 40 ft. 10 in.) is fitted with tables to accommodate forty-eight readers, three each 3 ft. 6 in. by 9 ft. 9 in. for eight readers, and two each 3 ft. by 12 ft. long for twelve readers: these long tables are only 2 ft. high. The attendant's desk is at the entrance, and a small work-table is placed in the centre of the room. The central column has framed around it panels for exhibiting pictures. Shelving is placed around the walls, 4 ft. high to window sills, and one shelf higher between them. The card catalogue is placed in the far corner of the room, with table for reference. The adjoining room is used as a class room for the study of special subjects. Cupboards to a height of 3 ft. with a 12 in. ledge are arranged around the walls, and above to a total height of 7 ft. the walls are covered with coloured linen, having brass rods to which photographs and drawings may be hung. The first rod is 1 ft. 5 in. high, then 12 in., then 6 in. and 6 in.—four rods altogether. The room has one large table, 4 ft. by 9 ft., with eight stools to it. Off this room is a small lavatory with basin only; other toilet accommodation is provided in the basement.

The cost was about £53,000, and the shelving capacity is for 225,000 volumes. Generally this is a very interesting building. A serious attempt has been made to meet the new requirements of the "free access" policy, and to a large extent it has been successful.

WASHINGTON PUBLIC LIBRARY, WASHINGTON, D.C.

The design for the Washington Public Library building, Washington, D.C., was the result of practically an open competition. Ten well-known library architects were invited to compete, each receiving an honorarium of £50. Other architects were also allowed to send in schemes, and the result was that the plans of Messrs. Ackerman and Ross, of New York, were selected (not an invited firm). The programme of the competition was issued in May 1899, and in August 1900 building operations commenced, after the plans had been very much revised. The conditions of the competition were very carefully drawn up, and the cost was limited to £50,000, but this was overstepped considerably, the total estimated cost being £70,000. Altogether the building covers over 17,000 square feet. Its frontage is 220 ft., with 60 ft. return ends, and the greatest depth through centre is 111 ft. 6 in. where the stack room occurs. The building consists of basement and two floors above. The basement (12 ft. floor to floor) is but partly below the ground level and is well lighted. The entrance to it is placed under the approach of the main entrance above, the vestibule being 20 ft. by 15 ft., from which the stairs on either side lead to the main vestibule above. Entered from half-landings, placed six steps up, is arranged the lavatory accommodation for men and women, the latter to the right and the former to the left. Beyond the vestibule is a large space for bicycles. One room only—that occupying the west wing—is intended for real library use: it is 58 ft. 6 in. by 50 ft., and will ultimately become the children's reading-room when the demand for juvenile accommodation outgrows the space provided on the first floor for this purpose, or when the children's room on the first floor is needed for the open-shelf accommodation. The east wing, of the same dimensions, is devoted

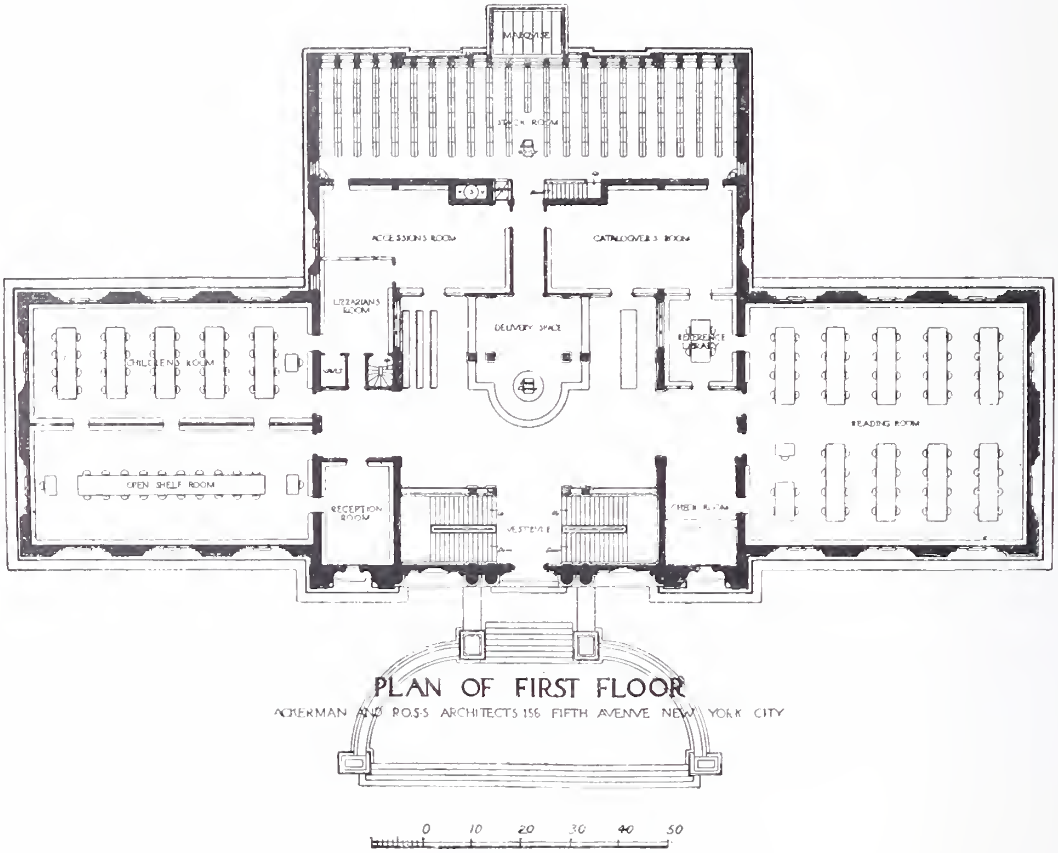


FIG. 8.—PUBLIC LIBRARY, WASHINGTON, D.C.

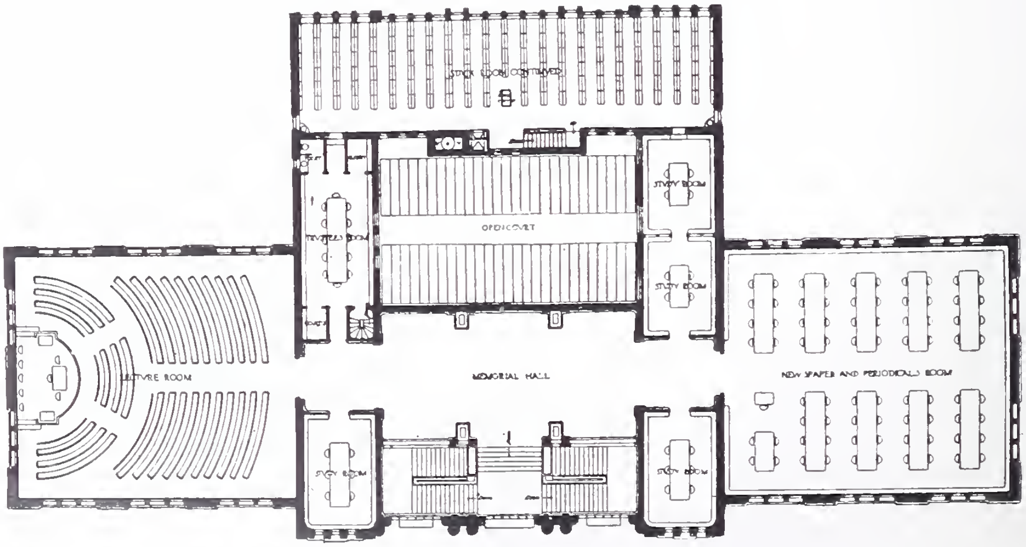


FIG. 9.—PUBLIC LIBRARY, WASHINGTON, D.C.: SECOND FLOOR PLAN.

MESSRS. ACKERMAN AND ROSS, ARCHITECTS, NEW YORK CITY.

to the staff lunch room (20 ft. by 24 ft.), fitted with lockers, with a kitchen and pantry adjacent, store rooms, and rooms for the caretaker, house cleaners, and scrub-women. The boiler-room (52 ft. 6 in. by 32 ft.) extends down to a sub-basement (21 ft. 6 in.) below the first floor level, therefore 9 ft. 6 in. below the basement floor, and is placed right in the centre of the building. Behind it are placed the packing and delivery room (34 ft. by 22 ft.) and the station delivery (15 ft. by 25 ft.), into which delivery waggons can back, having a staircase and lift to the stack room. The room for binding and repairs (34 ft. by 22 ft.) occupies the other corner. Near it is the attendants' entrance.

The first floor entrance is approached by a wide flight of sixteen steps. From the vestibule the delivery hall is entered, and directly opposite the entrance is placed the delivery counter. Not including the staircases either side of the vestibule, the space devoted to the public and the officials for delivery work is about 50 ft. by 40 ft.

The delivery counter has a frontage of 60 ft. to the delivery hall and the card catalogue is placed to the right, and seats for the waiting borrowers to the left. At the back of the counter (beyond the corridor) is the stack room, which is 22 ft. 6 in. by 83 ft., occupying the whole north end of the central block and extending up through both first and second stories, containing altogether five floors of 7 ft. each in height, and having a shelving capacity of about 264,500 volumes. There are altogether twenty-one rows of stacks 18 ft. long on each floor, with light between each row, and the upper story is top-lighted. The floors are to be of white marble or glass.

On the west side of the corridor leading to the stack room the accession room and librarian's room are placed, while on the east side the catalogue room and small reference room occupy similar positions.

In the east wing is the general reading-room (58 ft. 6 in. by 50 ft.), arranged with nine tables seating eight readers each, and one seating four, also an attendant's desk. Around the whole of the walls of the room shelves are provided to a height of 5 ft., which will contain 7,770 books. This room is exceptionally well lighted on three sides by eight fine windows.

At present the west wing, of similar dimensions, is divided into two by a temporary partition—half arranged as the children's room, with five tables seating eight each, with shelving around for 5,500 books, and the other half arranged as an open-shelf room, also shelved for 5,500, with one long central table seating twenty readers. In time, as before stated, the whole of this wing will be devoted to the open-shelf room, and the children will occupy the large room below it. The other rooms to be noted on this floor are the check room and reception room, on either side of the staircases and adjacent to the entrance.

On the second floor is the memorial hall (50 ft. by 25 ft.), placed centrally to the front. To the right, over the reading-room below, is the newspaper and periodical room, of the same dimensions, and fitted similarly; to the left the lecture hall occupies a similar position. Four special study rooms, each 20 ft. by 14 ft., are placed conveniently near the stack room.

TOWN LIBRARIES.—DIVISION II.

At least two distinct types occur in the libraries selected to illustrate plans adopted in this class. The Atlanta and Davenport represent one and the Pawtucket the other. The latter has only a basement and first floor; the others have an additional floor. At Atlanta the plan is more compact, and therefore more easily worked as a library than the rather monumental plan at Pawtucket. The open-shelf rooms adjoining the stack-room and either side of the delivery space are excellent features in the Atlanta library. The Utica library has not been erected yet. It seems to come midway between the above types. All the important rooms are placed on the first floor. Among the points worthy of note are the reference spaces (10 ft. wide) on each floor of the stack room; the important position of the children's room, which balances the general reading-room; and the provision for special study rooms. Libraries of this size—the cost ranging from £20,000 to £50,000—are becoming very numerous, and there is no doubt many new developments in their planning will be always taking place.

CARNEGIE LIBRARY, ATLANTA, GEORGIA.

The Carnegie Library, Atlanta, Georgia, was completed and opened last year. It consists of three floors, and is built on an isolated site. The main building has a frontage of 116 ft. and a depth of 64 ft.: projecting from the side to the right is the building for the book stack, 18 ft. wide and 56 ft. deep, set back 5 ft. from line of frontage.

The basement is reached either from a small back entrance or from the staircase leading from the main entrance hall on the first floor. It is 10 ft. 6 in. in height. The children's room extends across the whole of the west side. It is 33 ft. 6 in. by 58 ft., and well lighted on three sides. It is divided into two by a gangway 8 ft. wide, leading to the attendant's desk: either side of the gangway are railings 2 ft. 6 in. high, having gates in them next the attendant's desk, so each child entering or leaving is well under control. Each of these rooms has six tables, seating four readers each—tables vary in shape and height. The sizes of these tables are as follows:—Tables 3 ft. 6 in. diameter, 1 ft. 10 in. high, chairs 1 ft. 2 in. high. Tables 3 ft. by 5 ft., 2 ft. 4 in. high, chairs 1 ft. 4½ in. high. Tables 3 ft. 6 in. diameter, 2 ft. 6 in. high, chairs 1 ft. 5½ in. high.

Seats are fitted in each of the windows: they are 7 ft. wide and 1 ft. 4 in. high. The catalogue files are placed either side of attendant's desk. Specimen cases with glazed doors, bulletin boards with portfolios under, and shelving 8 in. deep are placed to a height of 6 ft. 6 in. between the windows, as well as on the east wall. In a similar position on the east side is the work room. It is 33 ft. 6 in. by 58 ft., lighted on two sides, north and south, and a central opening from it enters directly into the stack room, the floor of which is up six steps. This latter room is 17 ft. by 52 ft. The stacks are well arranged and lighted, and will take on each floor approximately 17,220 books. Two lifts with a table between, and a staircase adjoining, to upper floors, are grouped together, and near at hand a toilet room for staff is provided. There are altogether four floors of stacks, each 7 ft. 6 in. in height. The upper floor is top-lighted, and is at present used as the cataloguers' room. The stacks themselves are especially well arranged, having ample space between for reaching the books. The two floors above are stacked in a similar manner.

On the first floor plan the hall is placed right in the centre of the building, and is reached directly from the entrance vestibule. It is 42 ft. by 20 ft. The main staircase opens directly out of it on the north side. To the left is the magazine room, and to the right the delivery room. The four smaller rooms that open from the hall are placed either side of the staircase and vestibule: they average about 11 ft. by 17 ft. 6 in., and are used as special study rooms and for the medical library. Each of these rooms is provided with a table 3 ft. by 8 ft. and 2 ft. 6 in. high, and shelving to walls 6 ft. 6 in. high. The medical library shelving has glazed doors and a magazine rack beneath the window. The delivery space is 22 ft. by 20 ft. wide, the latter width being the length of delivery counter to the public. It has in it the cases for the card catalogue and two tables 6 ft. by 2 ft. for its use. On each side of this delivery space two rooms are set apart for open shelves. They are divided by railings 2 ft. 6 in. high, fitted with gates, and are each 25 ft. by 18 ft. 6 in. Both have two tables, each 3 ft by 8 ft., and 10 ft. of the return of the delivery counter on each side face towards these rooms. The counter is 3 ft. wide, 2 ft. 10 in. high, fitted towards attendant's desk with drawers, cupboards and shelves. There is a working space of 12 ft. by 18 ft., with table for the attendant, and behind it is the opening to the stack room, being the full length of the working space. The stack room is also approached from each of the open-shelf rooms: it is arranged practically as the floor below—two lavatory basins for public use take the place of the staff toilet.

The magazine room is the same size, 33 ft. 6 in. by 58 ft., as the children's room below it, and the windows are placed on the three sides in a similar manner. The attendant's enclosure and desk is placed directly opposite the entrance. It is about 9 ft. by 9 ft., with a panelled railing 2 ft. 6 in. high enclosing it, and having a gate opening into either side of the room. There are eight tables, 3 ft. by 8 ft., 2 ft. 6 in. high, each having six chairs, 1 ft. 5½ in. high; and in the centre of the room, opposite the attendant's desk, is a circular table 6 ft. diameter, seating eight readers. Seats are provided in the window openings, and along the front wall a standing newspaper desk 25 ft. long. Shelving 8 in. deep and roller shelving 2 ft. deep by 6 ft. high occupy the remaining wall spaces. Here will be kept the bound volumes of the magazines and the current files of all the weekly and monthly periodicals.

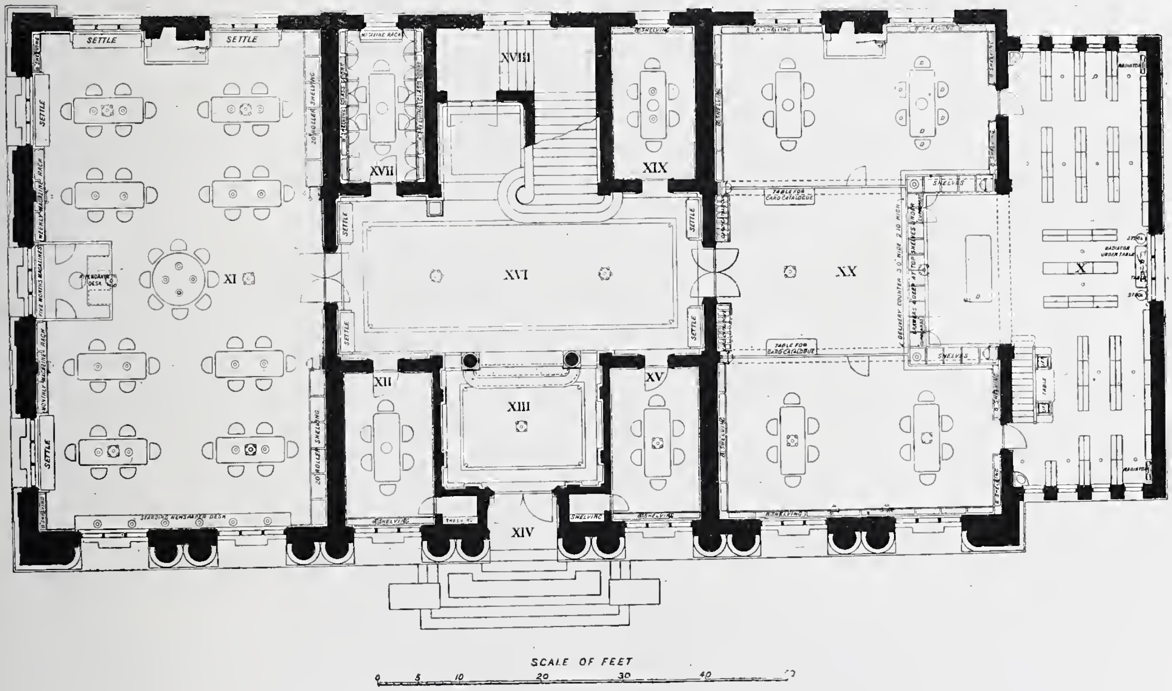


FIG. 10.—CARNEGIE LIBRARY, ATLANTA, GEORGIA : PLAN OF FIRST FLOOR.

MESSRS. ACKERMAN AND ROSS, ARCHITECTS, NEW YORK CITY.

X, Stacks. XI, Magazine Room. XII, Writing Room. XIII, Vestibule. XIV, Loggia. XV, Committee Room. XVI, Hall. XVII, Medical Library. XVIII, Vestibule. XIX, Special Study Room. XX, Delivery Room.

All shelving, cases, wainscoting, &c., on this floor, except under windows and in Room X, 6 ft. 6 in. high. D, Tables, 3 ft. by 8 ft. by 2 ft. 6 in. high, and chairs, 1 ft. 5½ in. high. Settles, 1 ft. 5½ in. high. Tables for Card Catalogues 2 ft. by 6 ft. by 2 ft. 5 in. high. Table in Room X 1 ft. 8 in. by 5 ft. by 12 ft. 6 in.

On the second floor the reference room is placed over the open-shelf room and delivery space. It is 33 ft. 6 in. by 58 ft., and has the attendant's desk exactly opposite the entrance, and opening out of what will be one day the top floor of the stack. The tables, &c., and the number of readers they accommodate, are as the magazine room already described. The shelving is 10 in. deep instead of 8 in., and there is a case 9 ft. wide with 20 in. deep roller shelving for atlases. It is 14 ft. in height and is well top-lighted, in addition to the windows front and back. A temporary panelled partition 6 ft. 6 in. high separates this room from the catalogue room at the back of the attendant's desk.

The rooms for the librarian are placed in the centre of the building, to the front a public office 21 ft. by 18 ft., and a private office 17 ft. 6 in. by 10 ft. 6 in. Opposite, on the other side of the upper hall, are placed the women's toilet and staff rooms. The latter is fitted with ten 14 in. by 16 in. by 6 ft. 6 in. lockers, with 6 in. drawers at bottom and shelf at top. There is also a sink and a marble-topped table adjoining, with small gas stoves.

The large room in the other wing over the magazine room, and of the same size, is fitted as a lecture hall. This room will, according to the librarian's report, "eventually become the main reading-room of the library, with shelving capacity for 5,000 volumes, specially selected."

The compactness of the plan is very marked, and it is of its type an excellent example. The total cost was £25,000, and it was designed by Messrs. Ackerman and Ross, of New York.

CARNEGIE LIBRARY, DAVENPORT, IOWA.

In many ways the Carnegie Library at Davenport, Iowa, is similar to the library at Atlanta. It covers, though, somewhat less area, the frontage of the building being 120 ft. long, with a depth of 64 ft. The site is an isolated one. In the basement—approached from entrances at both sides and by a staircase from the main vestibule above—are the two children's rooms—the reading-room, 25 ft. by 25 ft., with six tables seating six each (36), and the children's study, of the same size and fitted in the same way. Other rooms are provided for the reports and historic records, work-room 16 ft. by 18 ft., boiler room 16 ft. by 26 ft., large storage room (under delivery room), plenum (under vestibule), with inlets under steps to entrance, janitor's room, disinfecting room, and the men's lavatory. The children's lavatory is placed off the study room. On the first floor the delivery hall, 26 ft. by 39 ft., is right in the centre of the building, and is reached directly from the entrance vestibule. It is top-lighted and 42 ft. in height. In the centre is placed a large table to seat fourteen readers. To the left is the general reading-room, 25 ft. by 60 ft., with small alcove at entrance between it and the delivery room, 12 ft. by 30 ft. There are 16 tables—13 seating six each and 3 four each. To the right is the delivery counter (with work space balancing the alcove on the other side of the hall), and the stack room, 25 ft. by 60 ft. The latter is arranged for two floors of stacks, the twelve rows being each 18 ft. long and the total shelving capacity 60,000 volumes. Entrance to the stack room is accessible to the public, but controlled by electric button snap-catch gates each side of the delivery counter, at the command of the attendant. The reference room, 18 ft. by 25 ft., with alcove, is well arranged, having its entrance from the delivery hall well controlled from the delivery desk, and it also opens directly into the stack room. The cataloguer's room, 11 ft. by 17 ft., and librarian's room, 17 ft. by 17 ft., with lift to librarian's private room above and work room below, balance on the other side of the delivery desk, and to the left of the librarian's room is the special library, 14 ft. by 24 ft. The ladies' cloak-room and toilet adjoin the general reading-room. On the second floor there are placed additional special library rooms and private rooms for the literary circle, as well as an assembly hall and exhibition room. The architect is Mr. Calvin Kiessling, of Boston.

PUBLIC LIBRARY, UTICA, N.Y.

In the very recent competition for the Public Library, Utica, N.Y., ten well-known firms of architects experienced in the construction of library buildings were asked to compete. The conditions of competition and suggested outline plans of the two floors were drawn up by the assessor, Professor W. R. Ware, of Columbia University, New York. It has been found necessary to cut down the size of the selected design considerably, but the general arrangement exists. The plan illustrated [fig. 12] is the competition one without these variations. In the suggested outline plan certain points are distinctly good, particularly the relative positions of the stack room, delivery hall and space, and the reference and children's reading rooms, but to obtain this nearly all these rooms have to be top-lighted to assist the side lights—perhaps a doubtful feature, certainly an extravagant one. The children's room occupies an important place. In the conditions its area was desired to be as the main reading and reference room. The suggested position and form of the stack room, with its reference space extending its whole length on each floor, is also good, the only objection being that the inside portion of the stack might be dark—depending as it does on the borrowed light of the lantern over the delivery hall. Still, the advantage of having all the books within such easy reach is great.

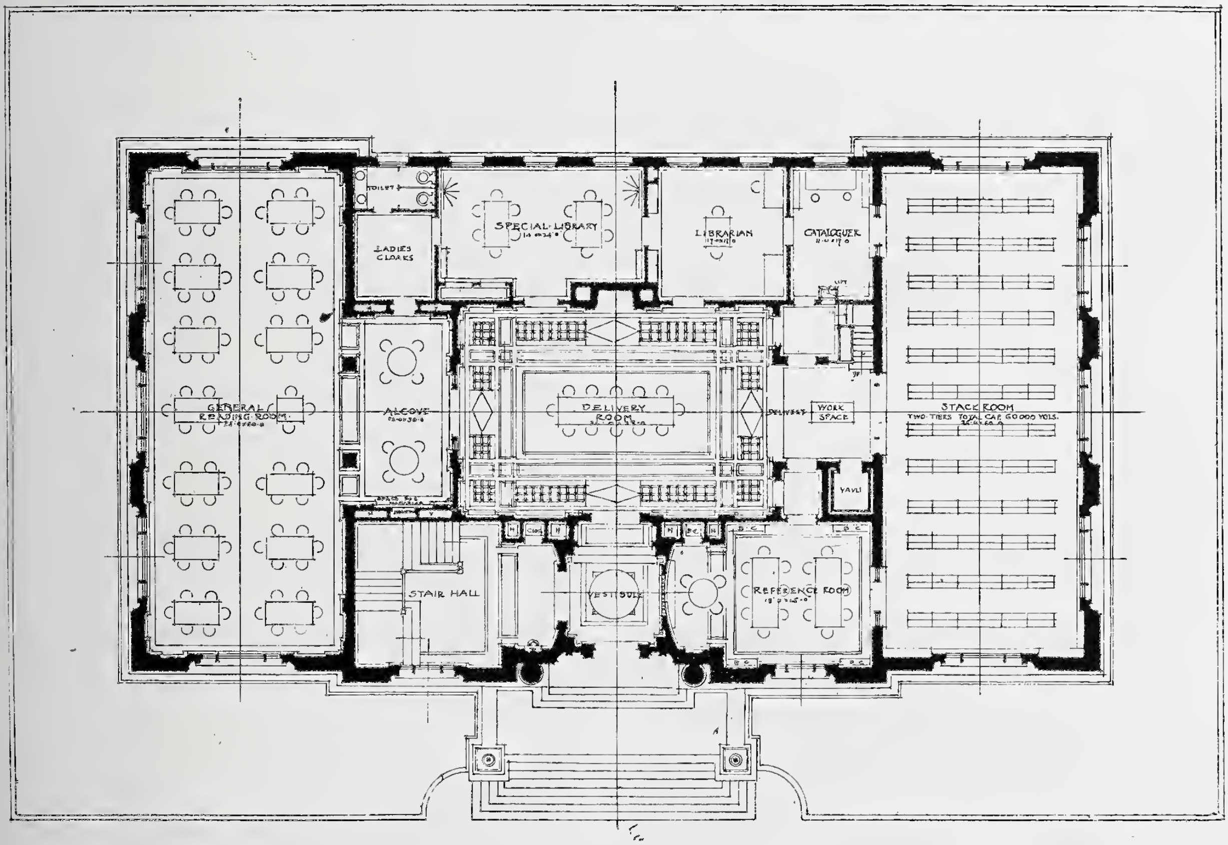


FIG. 11.—CARNEGIE LIBRARY, DAVENPORT, IOWA, U.S.A.: FIRST FLOOR PLAN.
MR. CALVIN KIESSLING, ARCHITECT, BOSTON, MASS.

The basement, which is about 8 ft. 6 in. in the clear, is entered from the outside by an entrance from an area in the rear. The area is reached by a very wide flight of fourteen steps, 18 ft. wide. On either side of the vestibule are placed the public lavatories and check rooms, and beyond are two flights of stairs to the delivery hall on the main floor. All the other rooms belong to the administrative side of the building, and include a very large general work room, machinery, heating and ventilating plant, old newspaper files, receiving and binding stores, and janitor's quarters. There are two service staircases and a staff entrance. The stack does not start on this floor.

On the first floor, or main floor after passing through the vestibule, which has the librarian's public room, 12 ft. 6 in. by 22 ft., and the janitor's room of the same size, on either side, the hall corridor is reached: it is 10 ft. wide, and extends from end to end, toilet rooms being placed at the extreme ends—rooms which are hardly required at this point and necessitating waste space in the form of corridor to get to them. In the front of the building to the left is placed the newspaper room, 26 ft. by 46 ft., and in a similar position on the right two special collection rooms, one 25 ft. by 26 ft. and the other 19 ft. 6 in. by 26 ft.: both these are reached from the corridor. Directly opposite the vestibule is the delivery room, 29 ft. by 36 ft., with the delivery counter projecting into it from the stack room. On the right is placed the children's room, 36 ft. by 51 ft., and on the left the reading and reference room of similar size: the stairs to the second floor and basement are arranged on either side between. These stairs interfere very little with the scheme desired of having these rooms practically under the control of the delivery counter; on the other hand, whenever the lecture room on the second floor is used, the current of people using them must become a very disturbing

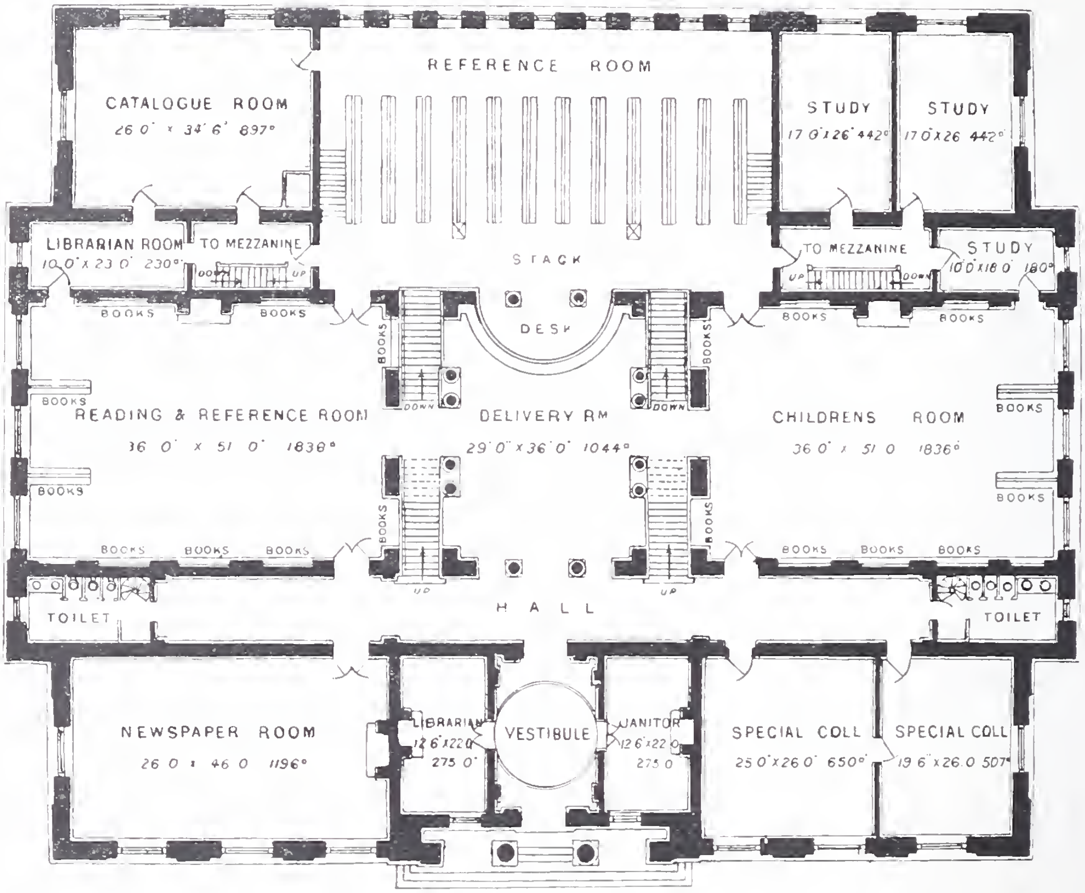


FIG. 12.—PUBLIC LIBRARY, UTICA, N.Y.

MR. A. C. JACKSON, ARCHITECT.

element to the readers. Both these main reading-rooms are lighted from the top, as well as by three windows at the ends. From the floor to the flat ceiling light is 30 feet, the remaining portion of the room being 22 ft. 6 in. in height. The space in each room adjacent to the windows is divided into three alcoves by bookcases 6 ft. high. Similar cases are fitted into recessed bays on the other three sides of the room to the same height.

The librarian's private room, 10 ft. by 23 ft., is placed between the reading-room and catalogue room, 26 ft. by 34 ft., which is placed in the far left-hand corner of the building at the end of the stack room. In a similar position to the right are placed two study rooms, both 26 ft. by 17 ft., and balancing the librarian's room is a small study room opening out of the children's room.

The stack room is 65 ft. by 38 ft. The stacks are each 18 ft. long and are arranged in one row. There are altogether twelve of them, containing space for 21,600 volumes on each floor, a total on the five floors of 108,000. The spaces in front of the stacks towards the delivery room and at the back towards the windows are both 10 ft. wide, the latter being used as a reference room. As this is arranged so on each floor, a great number of readers can therefore be accommodated quite close to the books. This is very like the plan adopted for the seminar rooms at Columbia University, New York. Book lifts and stairs at each end of the stack are conveniently arranged. In the mezzanine floor, over a small portion at either end of the stack room, are provided coat and lunch rooms for the staff, and study rooms.

The second floor, which is level with the fourth floor of the stack, contains a large hall 30 ft. by 96 ft., a map room 19 ft. by 26 ft., a lecture room 19 ft. by 26 ft., two study rooms 9 ft. by 36 ft. each, two special collection rooms 19 ft. by 26 ft., a staff room with elevator 14 ft. by 26 ft., trustees' room 19 ft. by 26 ft., and two toilet rooms. The cost was limited to £30,000, and the architect is Mr. A. C. Jackson, of New York.

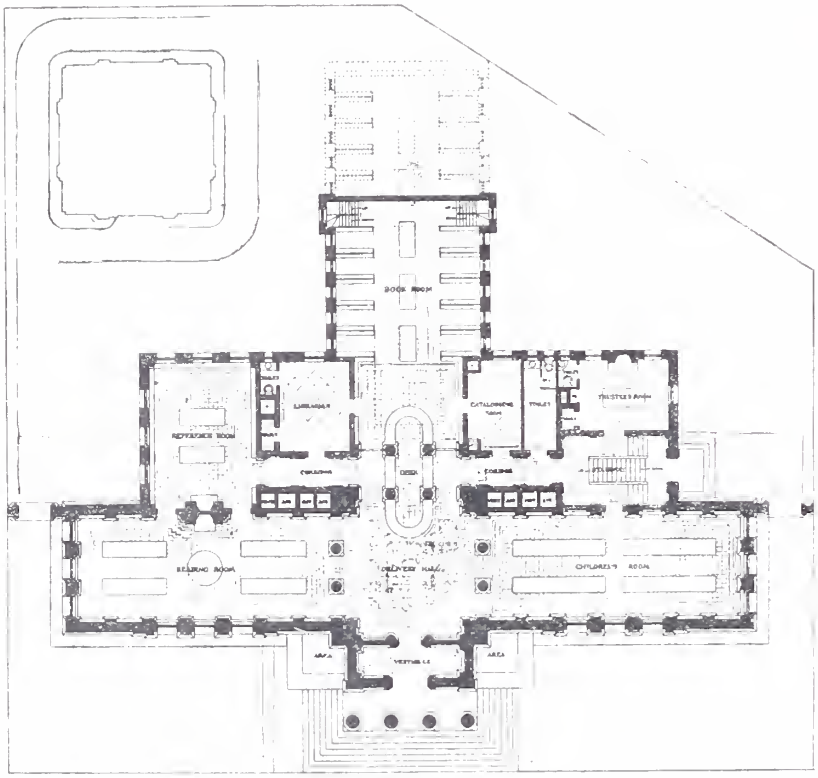
PAWTUCKET LIBRARY.

In the Library Building at Pawtucket, R.I., the planning is simple and straightforward. The approach is through a portico into a vestibule, and then directly into a square delivery hall, with two large columns in each of the four openings leading to the main divisions of the library. Exactly opposite is the delivery counter, enclosing a space, 25 ft. by 6 ft., having two semicircular ends, one towards the delivery hall and the other towards the stack room. From the attendant's desk practically all these main rooms are controlled—the children's room to the right, the reading-room to the left, and the stack room in the rear. Originally the stack room was arranged on the alcove system, but now it is fitted with stacks running in four rows lengthwise, with half-stacks at walls. They are 3 ft. apart, and have 3-ft. gangways across. The lighting will hardly be so successful as in the original scheme. Each floor of the stack is capable of shelving 21,000 volumes.

The general reading-room is 24 ft. by 55 ft. It is fitted with two rows of tables—twelve altogether—each 3 ft. by 5 ft., and seating four. An open fireplace is placed on the inner wall, and on either side is an opening to the reference room, 32 ft. by 23 ft., fitted with four round tables for four readers each. This room is also reached by a corridor from the delivery hall. The children's room has also two rows of twelve tables, 3 ft. by 5 ft., 2 ft. 2 in. high. Shelves are fitted between the pilasters along the wall of room, and their toilet room is reached from the half-landing of the side staircase. Both these rooms are top-lighted, in addition to having windows at the front and sides. The ceiling over the delivery hall is 36 ft. from the floor, going up to a greater height than the adjoining rooms, which are 20 ft. in height. The librarian's room, 20 ft. by 15 ft., and the cataloguing room, 20 ft. by 12 ft., are placed adjacent to the delivery desk, one on the right and the other on the left. A trustees' room and side entrance hall and staircase balance the reference room on the left. There is no second floor.

In the basement the newspaper and periodical room is placed under the stack room, two circular staircases at the sides connecting them. The large rooms under the main reading-rooms are used, one as an art room and the other for special exhibits. They are fitted with special cases, swinging frames, &c.

The cost of the building was £45,000, and the architects were Messrs. Cram, Goodhue and Ferguson, of Boston.



FIRST FLOOR.

FIG. 13.—PUBLIC LIBRARY, PAWTUCKET, R.I., U.S.A.: SUCCESSFUL DESIGN.
MESSRS. CRAM, GOODHUE, AND FERGUSON, ARCHITECTS.

FALL RIVER PUBLIC LIBRARY, MASS.

Although in one or two details the plan of the Public Library, Fall River, Mass., has been slightly altered, it is nearly the same as that illustrated [fig. 14], which was the one selected in the competition, but some of the rooms have been re-allotted.

The arrangement of plan is very simple. On the main floor is a large top-lighted delivery hall, occupying the centre of the building. It has an arcaded gallery 8 ft. wide on the second floor, surrounding it. To the right of it is the main staircase, very well arranged, and beyond is the periodical reading-room. To the left is placed the large stack room, eventually to be fitted with seven floors, and then capable of taking 325,000 volumes. Opposite the main entrance is the reference room, occupying the position originally assigned the "Historical Collection," but one bay on either side wider. To the left of this room, adjoining the stack room, is the librarian's room, and to the right, adjoining the periodical room, is the card-catalogue room, with two stands for the card catalogue, and two tables, 8 ft. by 4 ft., 31 in. high, with four seats either side.

There are three openings from the delivery hall into the working space between it and the stack room. The large central one is fitted with the delivery counter, segmental in plan and projecting into the hall; and the two sides have straight counters (for registration and information), of similar height, 3 ft. 7 in. The stacks are 18 ft. in length, in one row—sixteen altogether, without the wall ones. They are 2 ft. 6 in. apart. The staircase is placed centrally, and projects into the working space, which is top-lighted. The delivery floor level is the same as the third floor of the stack.

The periodical reading-room is well lighted on three sides. It goes up through the whole height of the building, and has a barrel ceiling, at present undecorated. The six tables are placed the short way of the room, and are 13 ft. 9 in. long by 3 ft. 6 in. wide, seating six either side. In the reference room are two tables, 12 ft. by 3 ft. 11 in. and 2 ft. 7 in. high, each seating ten readers. Oak bookcases are placed around the room, 6 ft. high. The attendant's desk is at the stack-room end, next the librarian.

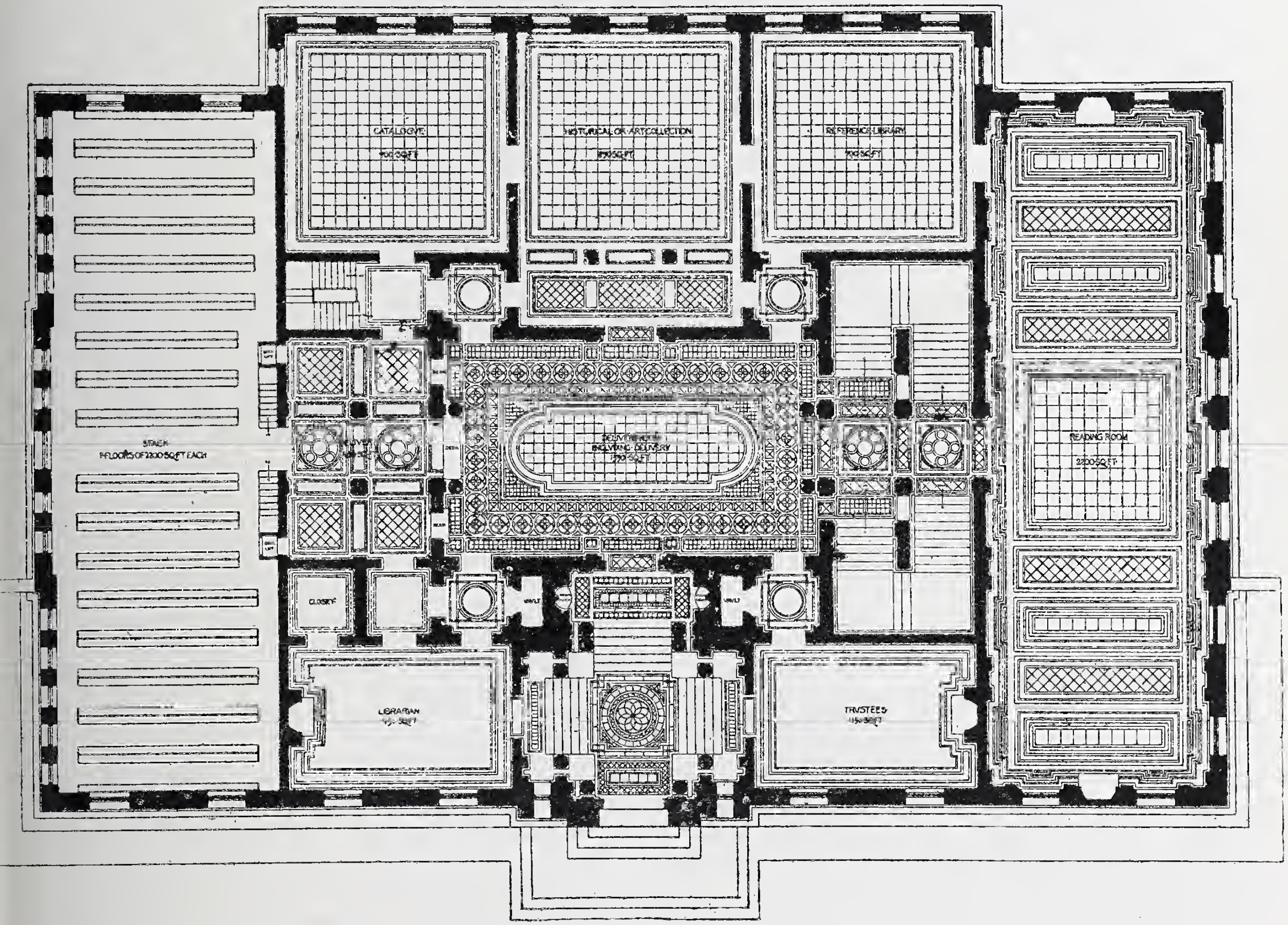


FIG. 14.—PUBLIC LIBRARY, FALL RIVER, MASS.

MESSRS. CRAM, WENTWORTH, AND GOODHUE, ARCHITECTS.

In the basement, under the far end of the periodical room and the whole of the card-catalogue room, is the children's room. Beyond, under the reference room, is a large reading-room, which eventually will be added to the children's department. The basement can be reached by stairs from the delivery hall, but there is also a side entrance, with a prettily vaulted vestibule on four grey granite columns. Art galleries occupy the second floor.

The public toilet rooms are all placed in the basement.

The architects were Messrs. Cram, Wentworth & Goodhue, of Boston.

TOWN LIBRARIES.—DIVISION III.

The effect of the "free access" policy—now so often adopted—is well illustrated in the plans of the three libraries selected under this heading. The tendency to do away with walls and substitute columns with glazed screens between is a feature in all of them. In the East Orange and the Tacoma libraries the use of the radiating stack, particularly in the latter, is new for such large buildings. The advantages obtained are enlarged upon in the descriptions of the libraries. The plan adopted for the Duluth library is an unusual one, and there seem great possibilities of a development on similar lines in the future. It is not quite so well matured as the Tacoma plan, which is excellent.

CARNEGIE LIBRARY, EAST ORANGE.

The somewhat curious plan of the Carnegie Library, East Orange, N.J. [fig. 15], is caused by the triangular shape of the site, and the result of such restriction of site has not been detrimental. In fact, it has allowed of the fitting in of the rooms in a remarkably happy manner, and the relative positions of the two reading-rooms, the stack room, and the delivery room are very good. It is worthy of note that beyond the doors of the vestibule there are practically no internal walls on the first floor, but columns with glazed screens which separate room from room. The advantage of this is very great from the control point of view. In the vestibule are placed the stairs to the basement, either side of a flight of eight steps leading up to the main floor. In the basement under the whole of the stack room is the auditorium: it is 12 feet high. The other rooms are 9 ft., and consist of store room, repair room, janitor's room, men's toilet, boiler room, and lunch room for the staff.

On the first floor the delivery room is a curiously-shaped four-sided space, right in the centre of the building. The short side at the entrance is 13 ft., the long one opposite the next stack room is 40 ft., and the depth of the space between is 23 ft., with a varying width of from 13 ft. to 40 ft.

The delivery counter is placed in this space on the long side next the stack room. The card catalogue is arranged either side of the attendant on the counter, and beyond are turnstiles for the public to enter the stack room. The whole of the stack room is seen from the delivery room. The height to the top of the columns surrounding the delivery hall is 12 ft. 6 in., and to the flat circular skylight lighting same 20 ft. To the right the reading and reference room is placed—it is 20 ft. by 49 ft. 6 in.; and on the left is a similarly proportioned wing, in which the children's room, 20 ft. by 29 ft., and the librarian's and catalogue room, 20 ft. by 20 ft., are placed, the latter connected directly with the stack room. The stack room's extreme depth is 29 ft. and width 58 ft., the outer wall being segmental. The stacks radiate from a centre at the attendant's desk. Against the outer wall is a gangway 3 ft. wide: 5 ft. separate each of the eleven stacks at this outer end, and they are about 14 ft. long, and 2 ft. 6 in. separate them at the inner end. There is also an inner row of small stacks, radiating from the same centre but of shorter lengths. There is room for two floors of stacks, and the height to the ceiling is 14 ft. 8 in. At present only one floor is fitted up. Each floor will contain about 23,000 volumes, a total of 46,000 in the two floors.

This is a decidedly interesting little library, and the general openness of the whole of the interior, making the control of every part from the attendant's desk easy, is a very important feature.

The cost was about £9,000, and the architects were Messrs. Jardine, Kent and Jardine, of New York.

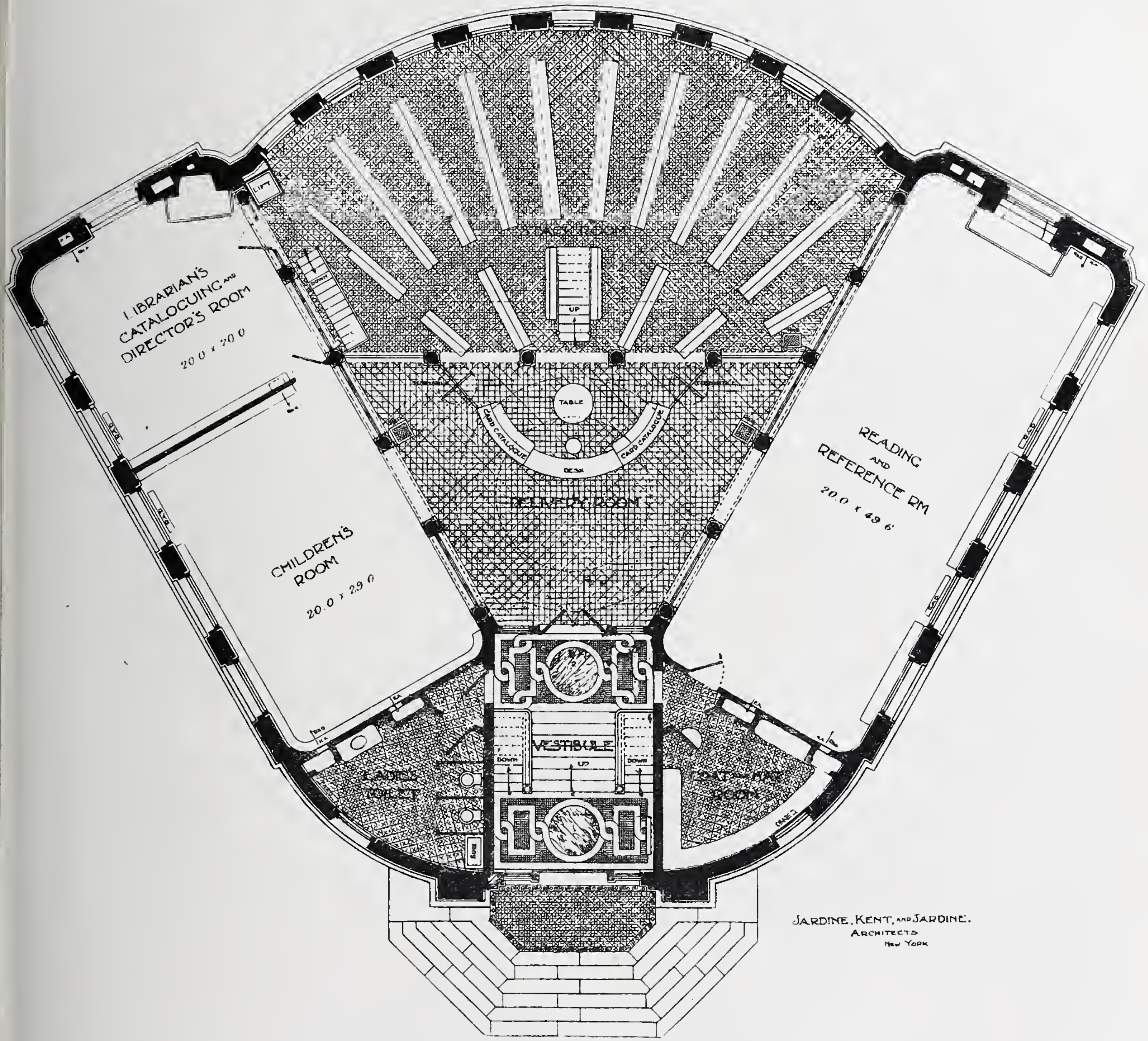


FIG. 15.—CARNEGIE LIBRARY, EAST ORANGE, N.J., U.S.A.: PLAN, ACCEPTED DESIGN.

DULUTH LIBRARY, MINN.

The Library at Duluth, Minn., is remarkably compact in its plan, and should well serve its purpose as an open-shelf library. It is in outline in the form of a Greek cross. The side arms project very slightly. The extreme dimensions of the building are about 110 ft. each way. It is practically of two floors, the ground floor, 11 ft. in the clear, consisting of a newspaper room (32 ft. 6 in. by 39 ft.) on the left of the entrance hall, which is 19 ft. 6 in. wide, and the juvenile room (32 ft. 6 in. by 39 ft.) on the right. Provision is made for two future stack-rooms in addition to the main stack room, which starts on this floor—one behind the children's and the other under the fiction room. The lavatory accommodation is placed right in the centre of the building, apparently with only borrowed lights—men on one side, women on the other: this arrangement and position seem hardly successful. A packing room below the work room, with lift and stairs adjacent, and a store room, boiler room, engineer's room, &c., complete the accommodation provided on the lower floor.

The first floor contains the principal rooms. These are all grouped around an octagonal space, 32 ft. across, placed in the centre of the building. This public space is reached by the main staircase directly from the entrance vestibule, and on the side facing the entrance is the delivery counter, with working space behind, the whole width of the octagon and 12 ft. deep. This central octagonal delivery hall is domed and top-lighted, and has four short sides, 8 ft. wide, at the corners, and four main sides, 21 ft. wide, having openings with columns between. The opening behind the delivery space enters the stack room, the opening on the right into the children's reading-room, and on the left into the fiction room: both rooms are fitted with stacks. Between the children's room and stack room the librarian's room is placed, practically controlling the library. There is also a private room behind. At the back of the children's reading-room and opening out of it is their stack room. The large reference room and the general reading-room are placed to the front. A ladies' reading-room, with lavatory accommodation, is placed just over the main entrance (which is the only entrance), and over it a board room is placed, the only room on the second floor. At a height of 7 ft. 9 in., the glazed floor for the third tier of stacks is placed and forms a gallery finished with an iron railing just behind the columns forming the octagon. This floor occurs on the sides of the octagon opening into the fiction room and stack room only. The main stack room is 32 ft. 6 in. by 32 ft. The stacks are placed at 4 ft. centres and two 12 ft. lengths, with 2 ft. 9 in. gangways, and contain 75,000 volumes. There are three tiers with glass floors. Tier No. 2 is at the same level as the first floor. In the fiction room they are arranged similarly, as well as in the small room adjoining the children's reading-room. The children's room is 33 ft. 6 in. by 26 ft. 6 in., and is shown with six large tables, 11 ft. 6 in. by 3 ft.

The general reading-room is 32 ft. 6 in. by 39 ft., and well lighted on two sides: it is shown with eight large tables, 3 ft. by 11 ft. 6 in., and shelving around the room to window-sill height. The reference room is 32 ft. 6 in. by 39 ft., balancing the general reading-room. The general openness of this plan is very good from the control point of view: with the exception of the columns and small piers at the corners of the octagonal hall there is practically nothing to obstruct the view of the whole of the rooms from the delivery desk. The architect was Mr. A. F. Rudolf.

TACOMA PUBLIC LIBRARY, WASHINGTON.

The Public Library, Tacoma, Washington [fig. 16], is one of the largest of the recent libraries where the radiating stack scheme has been adopted, and where the maximum of supervision from the central delivery desk is possible over every portion of the main floor of the library. The main building has a frontage of 95 ft. 8 in. and depth at sides of 53 ft. 8 in.; in addition, in the rear is the semicircular stack room. The whole consists of two floors.

On the first floor are placed, to the left, the newspaper room, about 20 ft. by 50 ft.; on the opposite side of the building are the boiler room, engineer's room, and coal room, and between them, in the front, is the large entrance vestibule, with men's and women's lavatories and a *foyer* on each side of the stairs to the main floor. The auditorium, which occupies the whole space under the stack room, is approached from these *foyers*.

The main library floor is reached by a staircase placed centrally up from this entrance vestibule, 8 ft. wide : the stairs branch (5 ft. wide) half way up right and left, reaching a wide

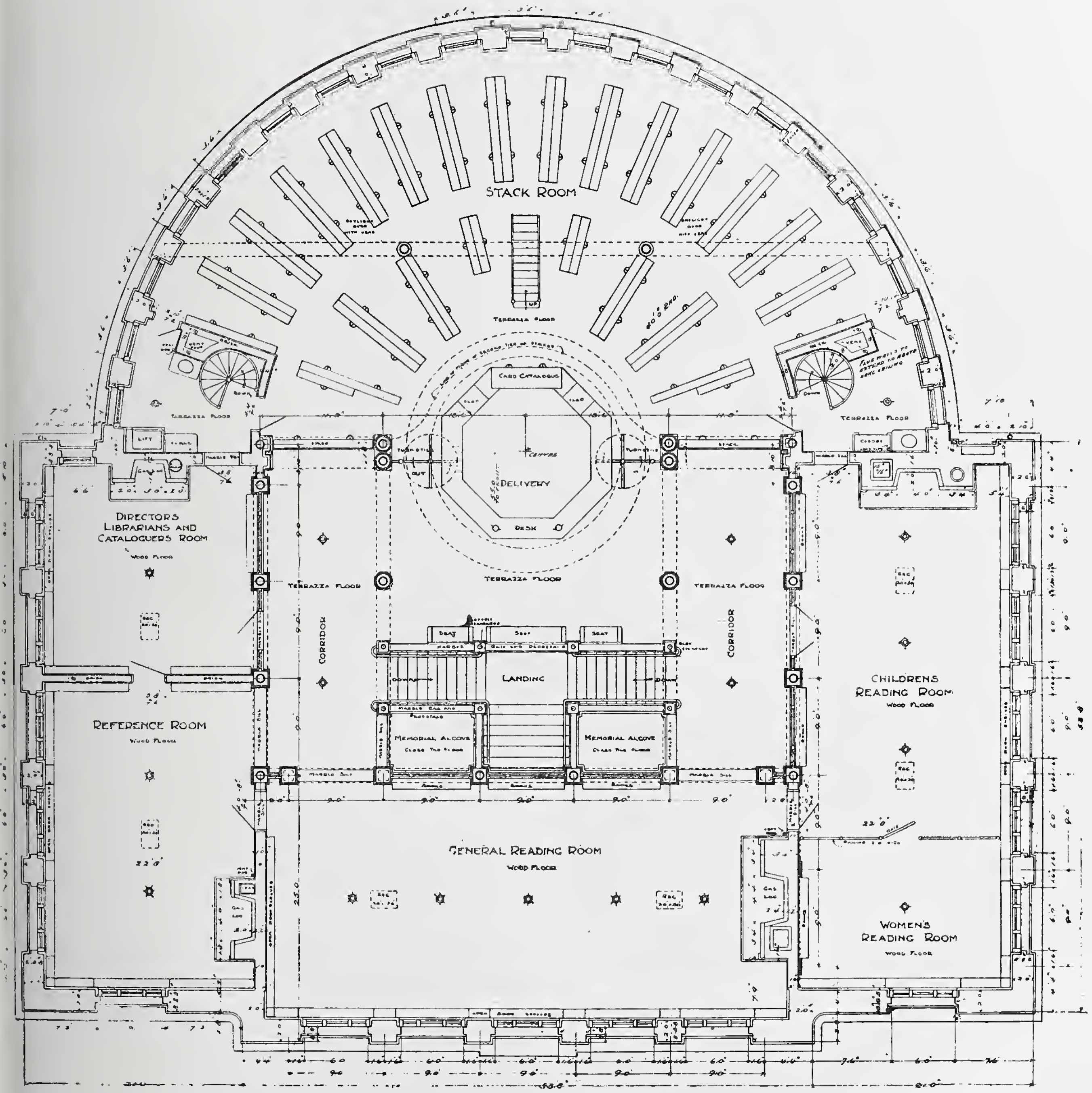


FIG. 16.—PUBLIC LIBRARY, TACOMA, WASHINGTON : SECOND STORY PLAN.
MESSRS. JARDINE, KENT, AND JARDINE, ARCHITECTS.

open corridor on each side, forming wings to the central space in front of the delivery desk. This central delivery space is 25 ft. wide, and is provided with seats.

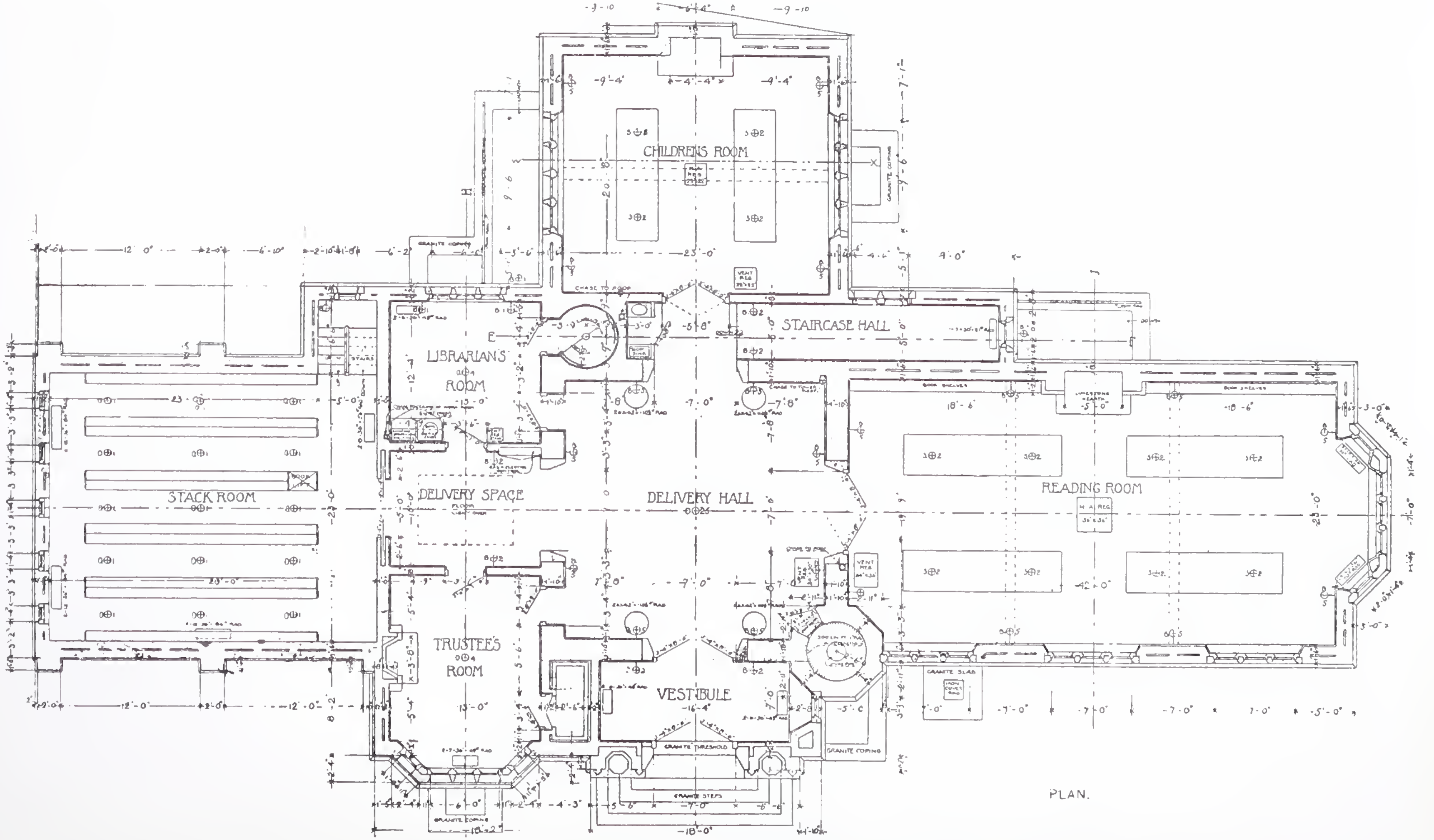


FIG. 17.—PUBLIC LIBRARY, NASHVA N.H.

MESSRS. CRAM. GOODHUE, AND FERGUSON, ARCHITECTS.

The octagonal delivery desk is practically in the centre of the building, having an internal diameter of 12 ft. (over this space is a domed top light), and on each side are turnstiles at the entrance to the stack room.

The stack room has a radius from the centre of the delivery desk of 38 ft. There are two rows of stacks : in the outer row are sixteen and in the inner row eight, both 10 ft. long, with a 2 ft. 6 in. gangway between. There are two tiers of them, both floors having a total capacity for shelving 44,000 books.

The general reading-room is placed to the front centrally, and is approached from the corridors on either side by large openings 7 ft. 6 in. wide. It is 22 ft. wide and 50 ft. long, very well lighted, and having glazed openings overlooking the main stairs and delivery space. The right wing is divided into the children's and the women's reading-rooms. The former is 20 ft. wide by 34 ft. 6 in. long, and the latter 14 ft. by 20 ft., a low railing 3 ft. high, with gate, separating the two.

In the left wing are placed the reference-room, 20 ft. by 28 ft. 6 in., and the directors', librarian's, and cataloguer's room behind it, 20 ft. by 19 ft. 6 in.

The amount of floor space lost by the radiating stack scheme is somewhat great : at the outer gangway the distance between the stacks is 4 ft., narrowing to 2 ft. 3 in. ; at the inner one 4 ft. 6 in., narrowing to 2 ft. 9 in. On the other hand, the ample space next the windows would allow plenty of room for a seat and small desk to be used comfortably, and where free access is given to the stack room a good space between the stacks becomes essential. A window between each row of stacks is provided, 3 ft. 6 in. wide, so they are well lighted, the inner ones being also helped with the dome over the delivery space and two additional skylights. The approaches to all the rooms are direct and well under control, and all the rooms are exceedingly well lighted. Ample book-shelving is provided along the walls under the windows in each room for reference. The absence of walls between the various rooms and the use of columns with glazed screens instead, and the radiating arrangement of stacks, make the control of the whole floor an easy matter from the delivery desk. The architects were Messrs. Jardine, Kent and Jardine, of New York.

BRANCH LIBRARIES.

The system of branch libraries and stations is remarkably organised in many of the large towns. At present few towns have started with a series of new buildings. Old buildings generally have been converted, such as schools, churches, private residences, and shops. The branch library is therefore likely to develop very greatly in the near future. Those at Pittsburg, Pa., which are in connection with the Carnegie Public Library there, are excellent, but they are only designed for isolated sites, and therefore represent only one type. It will be most interesting to watch the result of the work of the advisory board of architects appointed to design the sixty-five new branch libraries of New York. Quite a different type of plan will have to be adopted from those of Pittsburg. The sites will be in ordinary street blocks, between houses generally, with light from front and back only.

Some branches have already been erected in New York. The Bloomingdale branch, on a site with a frontage of 43 ft. to the street and a depth of 60 ft., is a recent one, and will be described hereafter. Generally, for these branch libraries there is no need to provide more shelving accommodation than for 15,000 to 25,000 volumes. Important books are easily obtained from the central library, and an automobile service delivers in a very short time what is asked for by telephone.

BRANCH LIBRARIES, PITTSBURG, PA.

Up to the present time the planning of the branch library has been studied perhaps in Pittsburg—in connection with the Carnegie Library there—more successfully than in any other town in America. There are five branches already erected of the seven given by Mr. Carnegie, each on an isolated site—so differing in this respect from the branch library one would expect in a large town, where often the site is cooped between houses, with capabilities of lighting only from the front and back.

The first built was the Lawrenceville Branch, opened 10th May 1898. Its cost was about £8,000. In the preparation of the plans for this building the problem was to provide for a stack room with a capacity of 20,000 volumes, a delivery desk, a general reading-room, and a children's room on one floor, and that every part of this floor should be visible from the delivery desk, allowing complete supervision of the whole, so that free access to the shelves could be given to the public.

The plan will show how these requirements have been met. The general reading-room, and the children's room, each 31 ft. by 33 ft. and 18 ft. high, are placed on either side of the delivery lobby, 21 ft. by 22 ft., which occupies the centre of the building. The circular delivery desk is 14 ft. clear diameter, and separates the delivery lobby from the stack room. The card-catalogue case is in the rear of it and faces the stack room. The outer wall of the stack room is semicircular, and its centre corresponds with the centre of the delivery desk. Its radius is 37 ft. 9 in., and the ten book stacks, 18 ft. long, radiate from the centre. From the delivery desk, therefore, the assistants in charge command a view of its entire floor.

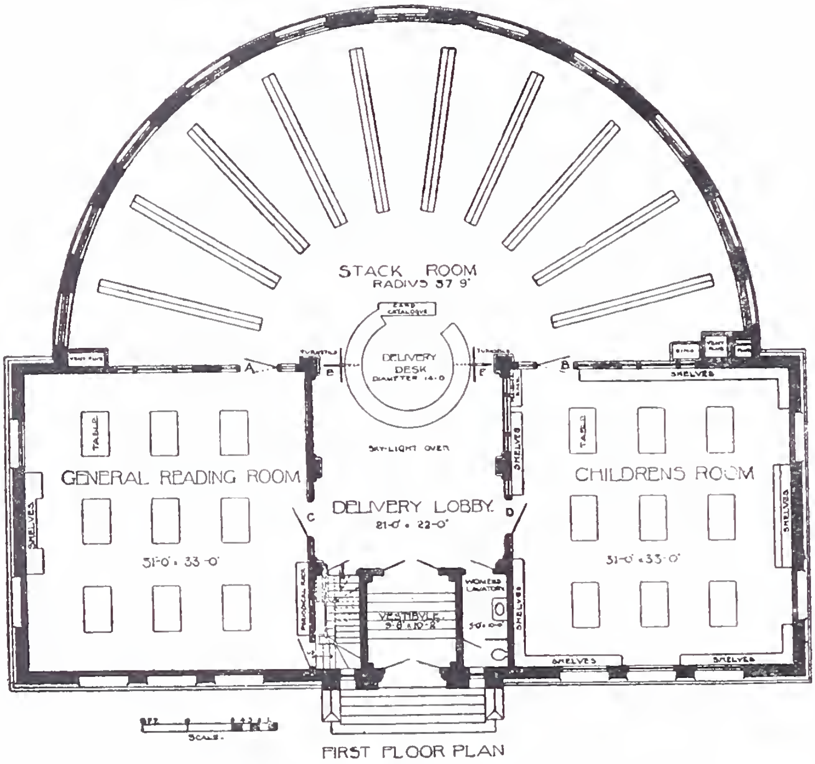


FIG. 18.—LAWRENCEVILLE BRANCH, CARNEGIE LIBRARY OF PITTSBURG.
MESSRS. ALDEN AND HARLOW, ARCHITECTS.

The ten stacks in the stack room have a capacity of about 25,000 volumes, which may be doubled by superimposing a second floor, sufficient light having been provided.

This branch being worked on the free access plan, the doors C and D on either side of the delivery lobby are unnecessary, and the entrance to the stack room is through the registering turnstile F, which works in only one direction, and thence to the reading-rooms through the doors A and B. The exit from all parts is through the turnstile E, which also works in only one direction. By making it necessary for everyone to pass out by the delivery desk through this turnstile, the temptation to carry a book away, without having it charged, is reduced to a minimum, especially since no one can feel sure that he has escaped observation at any time during his visit.

The basement contains a newspaper room 21 ft. 6 in. by 26 ft., a work room 17 ft. by 17 ft., a boiler room 13 ft. by 33 ft., men's lavatory, and an auditorium under the stack room to seat 500. This has a separate entrance at the side from the street, or can be entered from the delivery lobby by the staircase to the left of the vestibule, which descends into a *foyer*, 16 ft. by 25 ft., with entrances to the auditorium either side of the platform.

The general reading-room is fitted with nine tables, each 3 ft. by 5 ft., with chairs to seat about fifty readers. In this room are the current periodicals in a rack, and a small collection of reference books.

The children's room also contains nine tables, 3 ft. by 5 ft., graduated in height to the various sizes of children. The chairs are also of various heights and sizes. Sixty children may comfortably be seated in this room at one time. All the wall space to a height of about 5 ft. is occupied by shelves holding 4,000 volumes, and the whole of the books of the children's library are kept in and issued from this room.

The next branch opened was the West-end Branch, 31st January 1899. This is a much smaller library than the Lawrenceville, and is without the semicircular stack room. It also consists of two floors. In the basement are the workrooms and auditorium as before. The main floor is simply one large room. The central desk is placed in a similar position to that at Lawrenceville, with turnstiles either side, and the delivery lobby is separated from the children's room and the general reading-room by railings of the same height as the turnstiles. The walls are shelved round the entire room. At the back of the delivery desk is a small room, 16 ft. by 14 ft., projecting out from the main building. It is used as a small reference room.

Both reading-rooms are smaller than those at Lawrenceville, being 30 ft. by 28 ft. 4 in. each, and about 18 ft. in height, fitted with three long tables, each 16 ft. 6 in. by 30 ft. There are sixteen chairs to each table in the general reading-room, and eighteen in the children's. Its cost was nearly £4,000.

The branch at Wylie Avenue was opened in June 1899, and practically follows the lines of the Lawrenceville, with its radiating stacks, but owing to the increased size of the reading rooms to 37 ft. 6 in. by 33 ft., giving another row of three tables, the stack room is wider and not so deep. Its radius is 42 ft. to about the centre of the delivery lobby—not the delivery desk as before—but the stacks radiate from the centre of the delivery desk.

The Mount Washington Branch is modelled on the plan of the West-end Branch, except that glass partitions separate the general reading-room and the children's room from the delivery lobby. By this means a greater degree of quiet is insured. The recess for reference books in the rear of the delivery desk is 14 ft. 6 in. by 16 ft., and has a capacity of shelving 2,000 volumes. The other books are shelved in the two reading-rooms.

The turnstiles have been improved in several details, the entrance turnstile, marked F on the plan, having a frictional attachment which insures a more accurate registration of the number of visitors. The exit turnstile, marked E, is fitted with a locking attachment, which is released by pressing a pedal located just where the charging assistant stands within the delivery desk.

The delivery desk is octagonal instead of circular in form, and works more satisfactorily. On the inside it is fitted at the front with shelves for returned books, and with drawers for the shelf list, which is kept on cards, and at the other side with drawers for borrowers' applications and cards. The case of drawers containing the card catalogue is in the rear of the desk and faces outwards, so that it is readily accessible to borrowers.

The size of the general reading-room is 27 ft. 4 in. by 30 ft., with eight tables, seating sixty-four persons, 56 in. long, 39 in. wide, and 30 in. high. Near the entrance to the room is an attendant's desk of the same size as the tables. The room has a shelving capacity of 5,200 volumes, the bookcases being seven shelves high, except under the glass partition.

In the children's room—of exactly similar size—the shelving is carried to the same height, the upper portion having a corticine panel framed in oak. These panels altogether form a bulletin frieze extending around the room, and make an excellent background for small-framed pictures hung within easy reach of the children's eyes. The shelving capacity of the room is for 3,800 volumes. The tables (eight) are of the same superficial area as those in the general reading-room, but are of three heights—28 in., 26 in., and 22 in., with chairs to correspond, 17 in., 16 in., and 14 in. high respectively. The room contains also an attendant's desk similar to the general reading-room. Between the children's room and the vestibule is placed the women's toilet room, the men's being in the basement. The children's room is fitted with a small cabinet washbasin, compact in form, which folds against the wall behind closed doors when not in use. In the basement are placed the auditorium, boiler room, store room, workrooms, and men's toilet, &c.

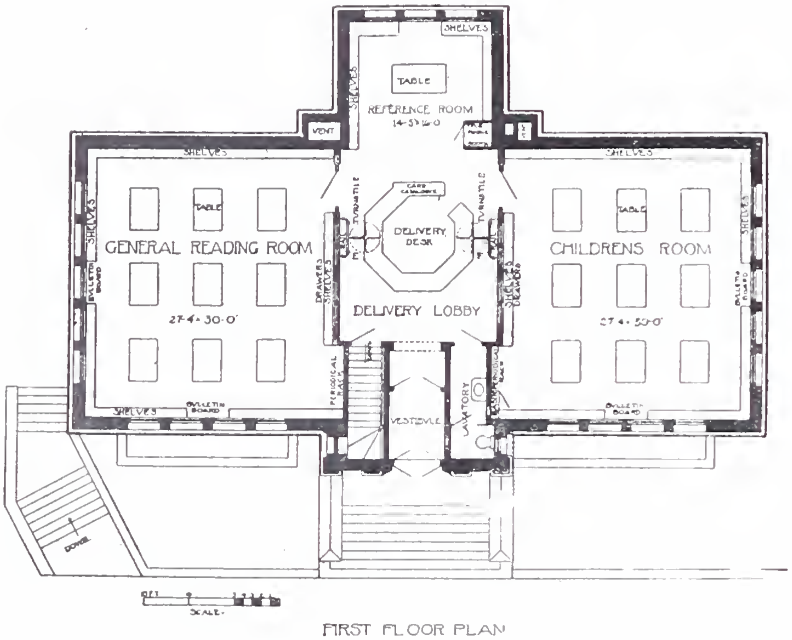


FIG. 19.—CARNEGIE LIBRARY OF PITTSBURG, MT. WASHINGTON BRANCH.

MESSRS. ALDEN AND HARLOW, ARCHITECTS.

The Hazelwood Branch was the last to be completed. Practically very little variation has been made. The seating capacity of the reading-room is one-third greater, the dimensions being 26 ft. 8 in. by 38 ft. 6 in., each having twelve tables; and the small reference room is contained within the main lines of the building, just behind the delivery counter. It is only temporary, until the stack room is built over the existing semicircular auditorium. The fittings of the delivery desk and shelving, &c., are exactly similar to the others.

Living quarters for the janitor are provided in a half-story above the main floor.

It is interesting to note the gradual development of these plans. The growth of what may be called the "turnstile control," resulting in the abandonment of the entrances to the reading-rooms from the delivery hall, as adopted on the first plan, is important.

The apparent unfitness of the low railing separating the reading-rooms from the delivery hall, as adopted in the West-end Branch, and substituted afterwards by screens in the later plans, is also worthy of note. Although the radial-stack plan is costly to build, yet the advantages where a "free access" policy is adopted are very great. The architects for all these libraries were Messrs. Alden and Harlow, of Pittsburg.

NEW YORK CITY BRANCH LIBRARIES.

In a very few years the city of New York will have a most complete scheme of branch libraries in connection with its magnificent central one. Mr. Andrew Carnegie has given £1,000,000 to build sixty-five branches, and the Board of Library Trustees have just appointed three firms as an advisory board of architects to take the entire charge of the designing and supervising of these buildings, the firms so appointed being Messrs. McKim, Meade and White, Messrs. Carrère and Hastings, and Messrs. Babb, Cook and Willard. There will be a certain number of libraries built each year, and the above firms will confer and collaborate in the work. The result should be eminently satisfactory.

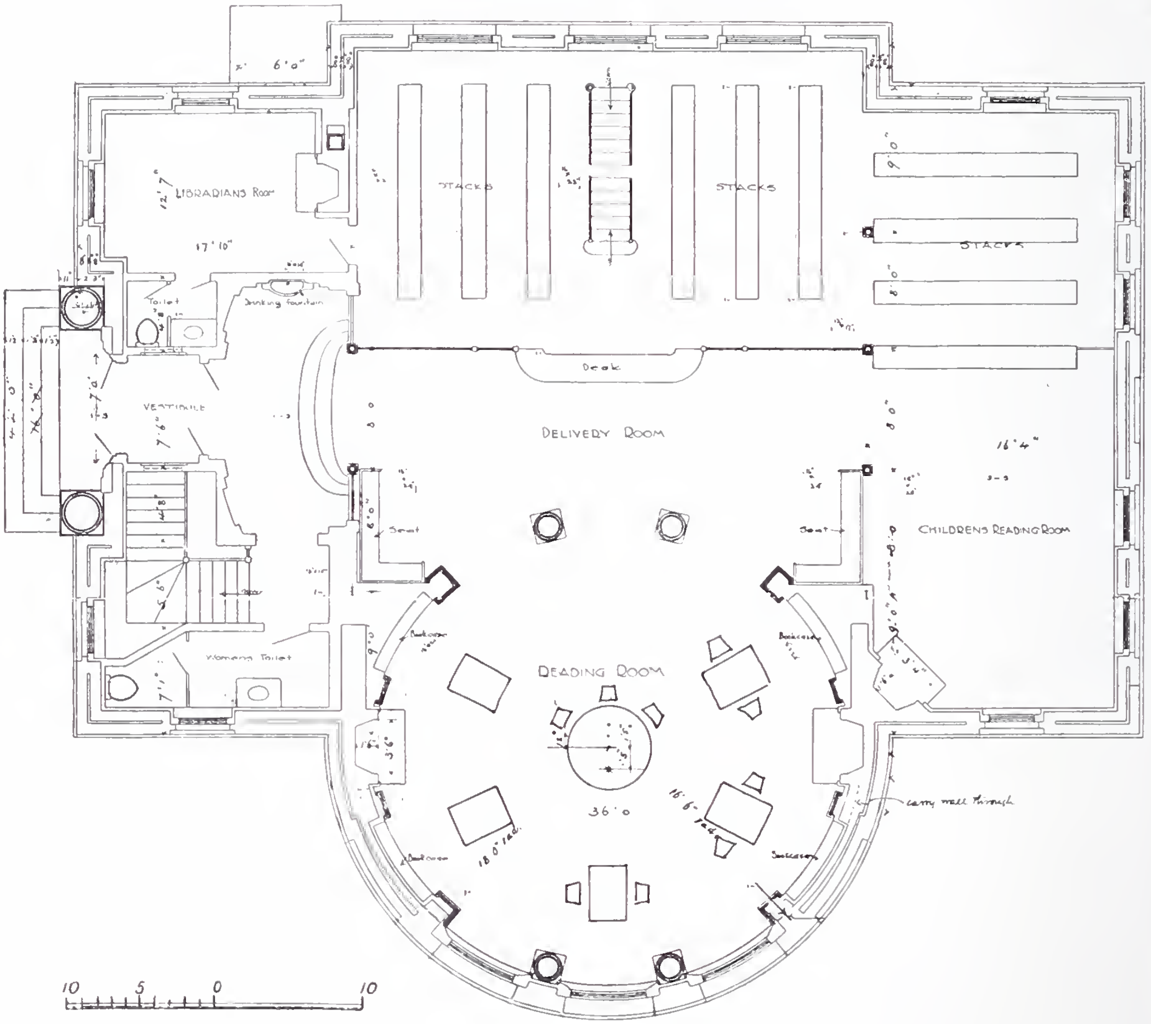
Among the branch libraries already built in New York perhaps the Bloomingdale Branch will best serve as an illustration of the arrangements adopted. It is built on a site with a frontage of 43 ft. and depth of about 60 ft. Lighting is only obtainable from the front and an area at the back. It consists of a basement and three floors above, and the whole of the main-floor area is open. The front portion is occupied by the delivery space, about 23 ft. by 9 ft. Beyond, placed centrally, is the delivery desk, enclosing a working space for attendants 14 ft. by 7 ft. The rear of the room is divided by a bookcase, 7 ft. high, into two, two tables for six readers being placed on either side. A portion by the side of the delivery desk, to the front, is reserved for children. Bookshelves are placed around the walls to a height of 7 ft. Gates and low railings separate the delivery space from the other portion of the room. The stairs to the upper floors are in the far right-hand corner, and are lighted from the area. The whole of the first floor is also open, and is used as the general reading-room. Book-lifts from the delivery desk below are placed in the centre of the room. It is fitted with twelve tables for six readers each.

The upper floor is allotted to the janitor and for purposes of the travelling library.

SMALL LIBRARIES.

In the State of Massachusetts the requirements of the small library have been particularly well studied. Hardly a village or hamlet is without one. Many of those around Boston are extremely successful. It was here that Mr. H. H. Richardson, about 1880, erected several that are well-known, such as the Ames Library at Easton and those at Woburn and Quincy. The great feature of the plan he generally adopted is the alcoved main reading-room, and in these alcoves all the books were shelved. The stack room, as understood now, did not exist. This method has not been found wholly successful from the readers' point of view, although architecturally the general effect of the alcoves is good. Many of the recently-erected libraries have very simple and compact plans. Those at Wayland, Plymouth, and Weston have been selected to illustrate this, and also because the buildings are quiet and well suited to their surroundings. Often the small memorial library fails because it is so monumental in character. The plan often adopted for this type consists of four rooms—the two reading-rooms either side of the domed central hall, and the stack room in the rear. They are often just miniatures of large town libraries, and look out of place.

The little library at Wayland, Mass., is admirably planned. Practically the whole is one room, easily controlled from the attendant's desk, yet ingeniously contrived so that the reader when in the reading-room is not disturbed by the borrowers at the delivery counter. From the inner hall there are three steps up into the delivery room, which averages 12 ft. wide by 33 ft. long, with the delivery counter, stack room, and librarian's room to the left. To the right is the reading-room. Either side of the counter the stack is separated from the delivery space by a low railing with gates in it. The reading-room is circular in plan, with a diameter of 32 ft. One quarter of the circle is open to the delivery room, divided into three openings of 6 ft. each by two columns. It is fitted with five tables, 2 ft. 8 in. by 4 ft., seating two readers each, and a circular table in the centre of the room, 6 ft. 6 in. diameter, seating six readers. There are three large sash windows, corresponding to the three openings from the delivery room and opposite to them; and between are two open fireplaces, with bookshelves either side. The children's reading-room is beyond the delivery room, and is 24 ft. by 17 ft., fitted with two tables seating four each. A stack, in which their books are shelved, to hold



FIRST FLOOR PLAN.

FIG. 20.—PUBLIC LIBRARY, WAYLAND, MASS.
MESSRS. CABOT, EVERETT AND MEAD, BOSTON, ARCHITECTS.

about 1,000 volumes, separates the room from a small room, 15 ft. by 15 ft., behind—practically a portion of the book stack, which could be conveniently used as a small reference room.

The stack room is fitted with six rows of stacks, three on each side of centre, each row divided into two lengths of 6 ft. each, with gangway between. Just at present they will take 10,000 volumes, but on the second floor further stack accommodation can be arranged for more than twice this number. The approach to this floor is from the staircase at the back of the delivery counter only, so the storage accommodation for the size of the library is great. The architects were Messrs. Cabot, Everett and Mead, of Boston.

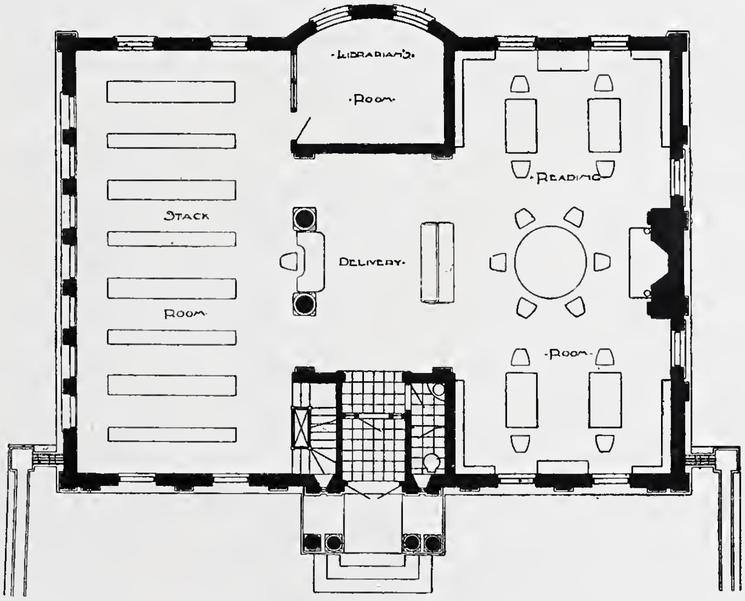


FIG. 21.—RUSSELL LIBRARY, PLYMOUTH, MASS.
MESSRS. CABOT, EVERETT AND MEAD, ARCHITECTS.

In the Russell Library, Plymouth, Massachusetts, by the same architects, the scheme adopted is a smaller one, but similar in arrangement: generally the rooms are more open in plan, and there is no division between the stack and delivery room. A seat with bookshelves at the back separates the reading-room from the delivery space. The stack room to the right is 20 ft. 6 in. by 40 ft., having eight rows of stacks 12 ft. long, with a total capacity of 13,440. Provision is made for a second floor: it is to be of glass, with a gallery towards the delivery space; it is reached by a staircase in the front corner of the stack. The space over the librarian's room is occupied by a private study room, the only room on the second floor.

The librarian's room on the first floor opens directly off the stack and is placed beyond the delivery space. The reading-room to the right is 20 ft. 5 in. by 40 ft. and 16 ft. in height: it is well lighted on the three sides and shelved all around for books. It is fitted with five tables.

Unlike the majority of the small libraries, that at Weston is ┘ shaped in plan. Directly opposite the long arm on the short side the entrance is placed, and directly beyond is the delivery hall, 15 ft. square. To the left, through an opening 14 ft. wide, divided into three by two oak columns, is the reading-room. It is 44 ft. long and 24 ft. 6 in. wide, and very well lighted on three sides. It is fitted with two tables, each 13 ft. by 3 ft. 6 in. and a circular one at the end of the room, seating altogether twenty-two readers. Between the columns on the right of the hall is a settle which divides off the children's small room, 11 ft. 6 in. by 15 ft. 6 in., also provided with a circular table seating five. Both these rooms are fitted with wall shelving between the windows. The book room occupies the long arm of the ┘. It is about 56 ft. long by 30 ft. wide. The opening between it and the delivery hall is 14 ft. wide, and is divided into three by two columns, like the other room. The delivery counter is placed in the centre; a desk occupies the left opening, for the use of the librarian, and a gate is placed in the right one. The first 10 ft. of it on the left is fitted for the librarian, and commands a view of all the rooms from her desk; beyond, it is divided into five well-lighted bays of 10 ft. centres. There is a central 6 ft. wide gangway and small ones 3 ft. wide at the walls. The stacks, which are of wood, 9 ft. long and 8 ft. high, have a capacity for shelving 11,340 volumes. This does not include the wall shelving in each bay below the windows. Between these stacks, near the wall, are placed small fixed tables, each 18 in. by 2 ft. 6 in., supported by central cast-iron standards screwed to the floor, and fitted with a fixed stool at wall end. A lift and staircase connect with the floor below the book room, which is of the same area. This is an extremely convenient and well-arranged little library. The architect was Mr. Jenny, of Boston.

In conclusion I should like to express my great thanks and indebtedness to all the librarians and architects who so readily assisted me in my work, and particularly to those who kindly gave me plans of their libraries for the Institute. These courtesies, so generously shown, made my visit to America as Godwin Bursar a most pleasant one.

DISCUSSION OF MR. GREENSLADE'S PAPER.

The President, Mr. William Emerson, in the Chair.

Professor BERESFORD PITE [*F.*] said he would like to have the opportunity of proposing a vote of thanks to Mr. Greenslade for the extensive material he had put before them in his Paper. He thought that a considerable amount of congratulation was due to the Institute and the Council and the President for the election of Mr. Greenslade to the Godwin Bursary, because they were reaping that evening the benefits of the visit to America which Mr. Greenslade was enabled to make as the holder of that bursary. The material which Mr. Greenslade had brought before them was undoubtedly an historical record as well as an illustration of what had actually been done in the matter of the library movement in the United States. It was something more than a justification of the use to which this bursary had been put, and he could imagine no subject the treatment of which would have given more pleasure to the founder of that bursary than the one Mr. Greenslade had treated, and the way in which he had read up the subject and taken the tour and brought back such a variety of useful information connected with what was essentially modern architecture. The object in view was not so much the study of ancient buildings as the study of modern architecture. They were accustomed to study architecture in temples and churches, to get back to the past and to get from archæology almost all their art even in the matter of planning. But when they came to books and libraries they found themselves in a progressive atmosphere and in a new field. The enormous originality in this subject and the extraordinary ingenuity (qualities with which they always credited their American brethren) which had been displayed in creating buildings for a want which could hardly exist, and bestowing not only architectural skill and engineering on the buildings, but in providing modern appliances for books which do exist and for books which do not exist, and building for the future in a most original way—this seemed to him most characteristic and remarkable. He should like to hear from Mr. Greenslade whether those bookshelves which were to accommodate millions of books were yet in use—he meant as far as accommodating books went. They would be interested also to have some observations as to the practical use of the very large children's rooms, as well as on the private reading-rooms and students' rooms, which seemed exceedingly numerous. Studying English libraries and the development of public libraries in England they came across national characteristics and peculiarities which in many respects strongly differed from the things they found in America. He supposed the American was socially more highly organised than the Englishman. For instance, the accommodation provided for toilet and lavatories and so forth, which at home had been done away with, as they were found to be a public nuisance, appeared to be a matter of necessity in America. There evidently seemed to be no fear of the library being used for the passing purpose of a conversation or club room, or anything of that sort. There was an atmosphere of serious study about the whole planning and arrangements of the scheme which was very important. He would like to suggest that the opportunity of seeing the plans together, ranging from the greatest to the smallest, would be very instructive in itself, apart from the Paper and the descriptions of dimensions and accommodation. A general survey of the system of planning would be of great importance and interest. He would like to say that personally he felt they had done a good thing in granting the bursary to a student who had gained honours as an artistic draughtsman, and whose work as a designer they all enjoyed. He had no doubt but that Mr. Greenslade's contribution would be of permanent importance to the Institute, and he had much pleasure in moving a vote of thanks to him.

Mr. J. H. QUINN, Librarian of the Chelsea Public Libraries, said he did not know that he could offer anything which would be useful from an architect's point of view on the subject, but as a librarian there was one thing which struck him very much, viz. the extreme practicality of the planning, and how everything seemed to be subservient to economy of administration, and to meet the convenience of the public. That was a very important point in library planning, and probably in England it was more important than in America, because in America they did not seem to suffer as in England from the meagre funds provided by the public for libraries. In England the want of funds affected them even at the outset in the design of the library. Most libraries were very much cut down in the design and planning by committees owing to this want of funds. That did not seem to be the case in many of the examples shown upon the screen. The Boston Library could hardly be regarded as a town library. He thought it would rather be considered a national library; so with some of the other examples. He was rather struck with the remark that all the important rooms were on the first floor; probably they would like to know the reason for this arrangement. It was a common thing that here and in America the loafer would not take the trouble to go up to the first floor, and therefore libraries were in that way rid of tramps and loafers, and the rooms could be devoted to serious study. Even if they had a reading-room on the first floor the tramp would not take the trouble to climb, and for this reason, and also for the quietness which was essential for students, they placed these rooms above. He had enjoyed the paper very much, for there were a great number of new points in it. He might, as an illustration, give a practical example of how public libraries in England were affected owing to the limit of the rate. In Chelsea Mr. Brydon planned a very beautiful building, one which if carried out in its original design would have been of immense benefit to them; but owing to the want of more money—he believed about £1,000—they were compelled to cut it down in a way they should not have done. Recently they had missed the late Mr. Brydon very much; but he was glad to say that Mr. Leonard Stokes was doing something to complete the design as originally prepared. The cost was only some £1,200, but the finding of a small sum like that in a rich borough like Chelsea was a great tax upon the penny rate, and the money had to be borrowed. He had listened to the paper with much pleasure, and expressed his own thanks to Mr. Greenslade, not as an architect but as a librarian.

Mr. J. OSBORNE SMITH [*F.*] said he had much pleasure in supporting the vote of thanks. He had very much enjoyed listening to the Paper, and thought they all owed a debt of gratitude to Mr. Greenslade for bringing those novel plans before them in such a clear form. What struck him on seeing the first large plan on the screen was how the new country had come to the old country for ideas in planning in this new subject. It was new in America, but it was not new in England; the two large reading-rooms in the New York libraries evidently were based upon the British Museum reading-room. The nucleus of the stack arrangement too could be traced to the British Museum. As to the arrangements of the stacks, he gathered from Mr. Greenslade that the borrowers were enabled to come to them and examine the books on the shelves. It seemed to him that many of the stacks, if they were correctly shown on the plans, would scarcely admit of that from the fact that there would not be light enough. He gathered that they were seven feet high and covered with a floor through which no light passed, and if they were 30 feet distant from the light he did not see how it was possible for any person to read the books. In London they arranged them so that all the books in the stacks could be read. He knew a library containing 300,000 volumes, not far from where they were sitting, where books could be read by borrowers 30 feet below the top-lights. The floors of all the passages were gratings through which the light passed, and he supposed some of the libraries they had seen on the screen were top-lighted and had gratings. Perhaps Mr. Greenslade could tell them about that. It was extremely interesting to note the clever way in which some of the smaller libraries were arranged with a view to getting the maximum of supervision. He thought the circular radiating stacks of books at the back of the librarian's counter were remarkably well arranged for the small libraries. On the whole, it seemed to him that the plans as they became simpler became better. He saw what appeared to him to be many grave defects in some of the larger plans, and he would very much like to see the buildings themselves. He would like to know if Mr. Greenslade could tell them whether artificial light was relied upon to light some of the larger buildings, and also how they were warmed. He supposed, being in America, they were warmed by steam, and he would like to know what the effect was upon the books.

The PRESIDENT said that in putting the vote of thanks he would like to add his personal congratulations to Mr. Greenslade on the very able way he had treated the subject, and on the amount of work he had got through during his three months' visit to America. The places visited were a long distance apart, and Mr. Greenslade was there in the hot weather, and must have exerted himself very much indeed to gain all this information in a temperature of from 100 to 106 degrees. With regard to Mr. Pite's suggestion of doubt as to the readers for those libraries, and the storage room for books which did not exist, he would like to say that, whether the readers were there or not, it seemed to him to prove that this library movement was part and parcel of the action taken by the Americans in view of the great necessity which existed for increased instruction. Some time ago there was a correspondence in the papers in connection with the comparative education in Germany, America, and England, and it was pointed out that the Americans and Germans were cutting England out in many trades and businesses simply owing to their superior education. He imagined that the Americans saw the necessity for this higher education, and started these libraries with a view to promoting it, and whether the libraries were full or were not full now, they might depend upon it that before long they would be extensively used. He should imagine that there were a great many books in these libraries and a great many readers. He was sure the vote of thanks would be carried with acclamation.

Mr. GREENSLADE, in responding, said he was afraid that in summing up the Paper he had left out some important points, but he thought it would be clearer and certainly fuller in the Journal. He could assure Mr. Pite that the libraries were used and the stacks were filled with books. He spent many evenings in the Boston Library, in the art reference section, and seemed able to get any book he desired. There appeared to be a most remarkable selection, and there were a great number of people using them. At the Congressional Library at Washington, in one of the large galleries there was displayed a fine collection of books of engravings after Turner's sketches, as well as his *Liber Studiorum*, shown in a way quite unknown here. In all the libraries the stacks seemed to be replete with the most recent art books from England, France, and Germany. They were displayed on the shelves, and there was no need to trouble the assistant at all. One simply took the book down, studied it and left it. With regard to the children's rooms he believed there were in the room photographs showing how the children's rooms were used. They were often crowded. At a Branch Library in Boston, formerly a chapel, the whole of the gallery was used for the children's library, and there were often a hundred of them there in the evening preparing their lessons. The library provided a series of books which were used at the various schools in the district for them to study. In nearly all the libraries there were certain classrooms set apart where teachers brought their scholars, and the librarian placed certain books on special subjects for reading in those rooms with the children. With regard to Mr. Smith's question as to the light, nearly all the stacks were wonderfully lighted. Of course in the majority of cases glass was used for the flooring. The pierced cast-iron floor was not used very often, as the dust came through, and librarians did not like it. The Congressional Library stack rooms were 45 feet across, and they were quite light.

Mr. SMITH: I can understand if glass is used; but I understood you to say it was only marble.

Mr. GREENSLADE said it was only marble at this library, but it was top-lighted as well. With regard to the heating that was a large question, but he had touched upon it in connection with the Congressional Library, and they would find it in the Journal, where his Paper was to be published *in extenso*.

9, Conduit Street, London, W., *22nd March* 1902.

CHRONICLE.

The Royal Gold Medal and the late Mr. Bentley.

With reference to the award of the Royal Gold Medal for the current year, the President informed the General Meeting of last Monday that the Council since the previous meeting had approached the King through Sir Dighton Probyn, Keeper of the Privy Purse, in order to learn His Majesty's views respecting a proposal to present the Medal to the family of the late Mr. Bentley as a mark of respect for his memory and of honour for his work as an architect. A letter in reply had been received from Sir Dighton Probyn stating that His Majesty had given the matter careful consideration, but that His Majesty, while fully appreciating the kindly feelings which had prompted the Council to make the suggestion, was of opinion that unless the Council were in any way pledged to award the Medal as proposed, or unless it could be shown that a case similar in character had occurred before, it would create a dangerous precedent if the Medal for the current year were given to the family of the late Mr. Bentley on the ground that in virtue of that gentleman's great services to architecture the Council would have recommended him for the Medal had he lived until the date of their next Meeting.

This expression of His Majesty's pleasure of course settled the question, continued the President, much as they would have liked to show this honour to Mr. Bentley. The Council, therefore, at their next Meeting would take into consideration the names of other gentlemen and nominate someone else for the Gold Medal for this year.

Reform in Architectural Competitions.

At a meeting of architects interested in competition reform held at the Institute on the 7th inst. at the instance of Messrs. A. W. S. Cross [*F.*], Herbert W. Wills [*A.*], and J. S. Gibson [*F.*], the following resolutions were agreed to, viz.—

(1) That the Institute should use energetic means to obtain control of the conduct of competitions in the initial stages.

(2) That competitions for buildings of considerable size should be adjudged by a jury of two or three assessors; in the case of specialised and technical buildings one of these assessors should be thoroughly conversant with the type of building required.

(3) That the whole of the fees for assessing the designs be paid into the Institute, and that these be paid to the assessors by the Institute.

(4) That while it is desirable that the nomination of assessors should remain in the hands of the President, we consider a list of architects should be drawn up from which assessors might be nominated.

The Council of the Institute have appointed a Special Committee to consider and report upon these points.

The Registration of Plumbers.

There seems some prospect that the Bill for the Registration of Plumbers, which has been before Parliament in one form or another for several Sessions, may this year pass into law. The present Bill, which was introduced into the House of Lords by Lord Glenesk, was read a third time before their Lordships and passed on the 10th inst. It is now on the list of Bills for consideration by the House of Commons.

The object of the measure is to establish a system under which plumbers will have the option of registering themselves. Certain qualifications will be required of plumbers before registration, so that people employing plumbers may be able, if they so desire, to employ plumbers who have given evidence of their qualification for plumbers' work. The control of the registration system and of the qualifying examinations will be entrusted to a general council, constituted under a scheme to be framed by the Local Government Board, and consisting of representatives of master and operative plumbers, local authorities, and various sanitary associations. Provision is made for the constitution of this plumbers' registration council for the purpose of establishing, keeping and controlling a register of plumbers in accordance with a scheme to be made under the Act. It is proposed that the council should consist of fourteen members, appointed as follows: Three by the Local Government Board, two each by the National Association of Master Plumbers of Great Britain and Ireland, the United Operative Plumbers' Association of Great Britain and Ireland, the County Councils Association, and the Municipal Corporations Association, and one each by the Royal Institute of British Architects, the City and Guilds of London Institute, and the Worshipful Company of Plumbers. The penalty for the assumption of the title of registered plumber by any unregistered person is fixed at £20 for each offence.

The scheme for carrying the Act into effect is to be made by the plumbers' registration council with particular regard to providing for the following points: (*a*) The constitution and proceedings of the council; (*b*) the establishment, keeping and controlling of the plumbers' register by the council, and enabling the council to determine and regulate the qualification for registration; (*c*) the disqualification, by misconduct, of persons registered, and the removal of the names of persons so disqualified from the register; (*d*) the fixing of the date on which the register is to come into force, and the determining of the conditions under which any person who is a plumber at that date may be registered; (*e*) the giving to the council by the registrar of deaths notice of the death of any registered plumber, and the fees to be paid for the notice; and finally (*f*) the expenses of the council and the fees to be paid in connection with registration. The Bill also provides that a scheme framed by the council shall not be valid unless confirmed by the Local Government Board; and that body may, after consulting the Local Government Board for Scotland and the Local Government Board for Ireland, confirm the scheme either without modifications or with such modifications as the Board think fit, and any scheme so confirmed shall, subject to the provisions of this section, have effect as if enacted in the Act. It is also provided that any scheme made under the Act may be rescinded, revoked, amended or varied by a scheme made in the same manner and subject to the same conditions. Further, it is provided that any scheme made under the Act shall be laid before both Houses of Parliament as soon as may be after it is made, and that, if within the next subsequent forty days on which either House has sat that House presents an address to his Majesty praying that any such scheme may either in whole or in part be annulled, his Majesty in council may annul the same, either in whole or in part as the case may require, and the scheme or part annulled shall thenceforth become void without prejudice to the validity of any proceedings taken under them previous to the annulment. Finally, it is provided that if the first scheme framed by the council and confirmed by the Local Government Board be so annulled, in whole or in part, the council may frame a further scheme as occasion requires, and the Local Government Board may confirm it. Appended to the Bill is a schedule which provides that the Local Government Board shall take such steps as may be necessary for constituting the council as soon as may be after the passing of the Act, and for summoning the first meeting of the council and regulating the proceedings thereat; that all authorities and persons shall comply with any instructions issued by the Local Government Board for the purposes mentioned; and that any expenses thus incurred by the Local Government Board shall be repaid to that board by the council when duly constituted.

The late Sir Richard Temple [*H.F.*].

Another of the Institute's distinguished class of Honorary Fellows has passed away in Sir Richard Temple, one of the most eminent Anglo-Indians of the latter half of last century. In making the formal announcement to the Meeting last Monday, the President said that he had known Sir Richard Temple for many years, and knew that he took the liveliest interest in architecture. He was, too, a very skilled draughtsman and a successful water-colour artist. Many years ago in India, at their occasional picture exhibitions, he remembered that Sir Richard's water-colour drawings won the admiration of them all. What delight Sir Richard took in architecture, and how intelligent a student he was of the subject, may be gathered from the eloquent Paper entitled "Picturesqueness in reference to Architecture," read by him before the Institute in February 1889, and printed in the TRANSACTIONS of that year. The Paper dealt mainly with the romantic architecture of India, Hindoo and Mohammedan, and was illustrated by a very numerous collection of beautiful drawings, pencil and water-colour, Sir Richard's own work, representing scenes in almost every part of India and a portion of Burmah. Sir Richard Temple was a guest of the Institute at the Annual Dinner of 1900, and was shortly afterwards elected Hon. Fellow.

The late Walter Glynn Doolin [*F.*].

Mr. W. G. Doolin, M.A., whose death was announced at the General Meeting last Monday, had been a Fellow of the Institute since 1899, having been elected by the Council, under By-law 9, on the unanimous recommendation of the Council of the Royal Institute of Ireland. Mr. R. M. Butler, of Dublin, has kindly sent the following notes of his career:—

The death of Mr. Walter G. Doolin took place on Monday, 10th March, at his residence, Pembroke Road, Dublin, at the comparatively early age of 52. By those who, like the writer, were numbered amongst his intimate friends, the news of his death will be heard with feelings of pain and sorrow. Few men in Dublin were more popular, and all who knew him well held him in an esteem that amounted to affection. Always kindly and genial, it will be long before his old acquaintances forget the memory of one who was ever a staunch and true friend.

Mr. Doolin was the son of the late William Doolin of Dublin, the foremost Irish quantity surveyor of his day. Educated at Tullabeg and Castleknock Colleges, he afterwards entered Trinity College, where he had a most creditable record both in the Arts and Engineering Courses. Later, after an apprenticeship to his father, he became a pupil of Mr. J. J. O'Callaghan, architect, Dublin. From Dublin he went to London, where he obtained a post in the Architects' Department of the School Board. Afterwards he became an assistant to the late William Burges, whose influence was always noticeable in Mr. Doolin's church work. To the end of his days he had a strong leaning towards the robust detail and sturdy proportions of that great master's work. His own work was nearly always good, the detail scholarly and refined.

Returning to Ireland, he started in practice early in the seventies, and speedily gained a reputation as a church architect of skill and judgment. Amongst the many large works built from his designs may be mentioned Lismore Cathedral, Nenagh, New Ross, Castlebar, Killorglin, Castlemaine, Cloghane, and Borrisoleigh parish churches, as well as a host of smaller churches, schools, convent, and domestic work in all parts of Ireland. On many important occasions he was employed as professional adviser to the Corporations of Dublin, Waterford, and Clonmel.

More than thirty years ago, when a mere youngster, he first joined the A. A. excursions. His first experience was the Northampton year, and, for a long time, while the late Edmund Sharpe guided his ardent young disciples through the richly dowered Nene Valley and the great Cistercian monasteries of Yorkshire, he was a regular attendant. Revisiting Northampton with Mr. Doolin a few years since, the writer well remembers how strongly the pleasant memories of those early days of eight and twenty years before, spent with sketch-book and rule, came back to him ; the eager delight with which he revisited the grand old churches of the town and neighbourhood, and the zest with which he pointed out their beauties.

He was a competent classical scholar, a ripe student of English and foreign literature, an ardent antiquary, and in all that pertained to the arts and sciences a thinker of no mean originality.

Mr. Doolin was a Master of Arts and Bachelor of Engineering of the University of Dublin, a Fellow of the Royal Institute of British Architects, member of the Institute of the Architects of Ireland and the Architectural Association of Ireland He also held a certificate as surveyor, under the Metropolitan Buildings Act, from the Royal Institute of British Architects.

R. M. Butler.

The Lightning Research Committee.

The Lightning Research Committee, which was organised in January 1901 by the Royal Institute of British Architects and the Surveyors' Institution for the purpose of obtaining accurate records of the action of lightning strokes on buildings, with a view to improving if possible the means of protection, has succeeded in enlisting the services of over two hundred competent observers in the United Kingdom, besides a considerable number in the Colonies and India and in foreign countries. The War Office, the Home Office (particularly as regards explosives factories, magazines, &c.), the Post Office, the Trinity House Corporation, and the United States Department of Agriculture have also signified their willingness to furnish the Committee with the required particulars of damage to buildings under their control resulting from lightning stroke. The heavy thunderstorms of last year afforded observers numerous opportunities of investigating and recording, upon lines laid down by the Committee, the damage caused by lightning to buildings within their area of observation. The net result so far is a series of some seventy or more trustworthy records made by persons on the spot and as nearly as possible at the time of occurrence. Supplemented as they in many cases are by information on points pertinent to the inquiry, these records furnish promising material for the Committee to work upon when sufficient data have been collected to enable them to formulate their conclusions. Particularly interesting and helpful are the photographs, plans, and sketches which illustrate some of the records. Photographs are often found to reveal conditions which verbal description fails to represent, or which would pass unnoticed except by the expert. The Committee therefore make a point of getting photographs immediately after the occurrence of a disaster in cases of importance.

Out of sixty cases tabulated by the Committee up to the end of December 1901, no fewer than twelve relate to buildings fitted with some form of lightning conductor. As regards the system recommended by the Lightning Rod Conference of 1882, data to hand are not at present complete enough to afford a practical test of its efficacy. The recently issued Report, however, of H.M. Inspectors of Explosives goes to show that the system has been found wanting, and that there is ample justification for the present inquiry. Commenting upon recent accidents caused by lightning to the factories of the Nobel Explosives Company at Krummel and Hamm, Germany, the Inspectors state that "these accidents have done much to confirm a feeling of distrust which has for some time been growing in our minds as to the absoluteness of the protection afforded by conductors erected in accordance with specifications laid down by the Lightning Rod Conference of 1882 ; and they go far to confirm on a large scale the interesting and instructive laboratory experiments of Dr. Oliver Lodge."

Besides the annual grants made by the Institute and the Surveyors' Institution, the Committee has been aided financially by the Government Grant Committee of the Royal Society and by the Royal Meteorological Society. Valuable help has also been given by the Royal Institute of British Architects, the Surveyors' Institution, the Institute of Electrical Engineers, and the Royal Meteorological Society, by circularising their members with a view to getting observers.

The Committee is constituted as follows:—Mr. John Slater [*F.*], *Chairman*; Major-General E. R. Festing, C.B., F.R.S.; Messrs. J. Gavey, M.Inst.C.E., General Post Office; W. P. Goulding, F.R.G.S., F.S.I.; Dr. Oliver Lodge, F.R.S., Birmingham University; W. N. Shaw, F.R.S.; H. Heathcote Statham [*F.*]; A. R. Stenning [*F.*], F.S.I.; Arthur Vernon, F.S.I.; Killingworth Hedges, M.Inst.C.E., *Hon. Secretary*.

The Committee are continuing their investigations. Members and others willing to assist by their observations are requested to communicate with The Secretary, Lightning Research Committee, 9 Conduit Street, W.

Special Election to Fellowship.

At the meeting of the Council held on Monday, the 17th inst., the following gentleman, being President of the Cardiff, South Wales, and Monmouthshire Architects' Society, and found by the Council to be eligible and qualified according to the Charter and By-laws, was elected a Fellow of the Royal Institute, under the proviso to By-law 9—viz.

Edwin Wortley Montague Corbett, Bute Estate Office, Cardiff.

ARCHITECTS' BENEVOLENT SOCIETY.

Annual Report adopted at the Annual General Meeting, 12th March 1902.

At the last Annual General Meeting of the Architects' Benevolent Society the President announced that, owing to the pressing calls on the Society, the income account for the year showed a deficit of over £40, and that, in consequence, many cases had only been inadequately relieved. The President's statement called forth from Mr. Macvicar Anderson an offer to contribute £100 to the funds of the Society if nine or any number of other donors would contribute sums so as to make the total amount £1,000. Mr. Anderson supported his offer by making a special appeal to a few personal friends, with the result that more than the necessary sum was cordially and promptly subscribed. The President (Mr. Wm. Emerson) also brought the objects and position of the Society before the attention of the Royal Institute of Architects of Ireland and of the Societies allied with the Royal Institute of British Architects; and your Council have the satisfaction to report that donations or increased subscriptions were received from the Royal Institute of Architects of Ireland and the Aberdeen, Liverpool, Nottingham, Manchester, and Devon and Exeter Societies. The Council desire cordially to thank Mr. Macvicar Anderson and the President, both for their generous contributions and for their individual efforts, by which they have so materially increased the prosperity of the Society. Thanks are also due to Mr. J. T. Christopher, to whose kindly intercession a donation of £21 from the Worshipful Company of Salters is due.

A list of those from whom donations were received is appended to this report. It should also be mentioned that Mr. W. W. Gwyther, Mr. Edwin T. Hall, and Mr. W. Campbell Jones increased the amount of their subscriptions.

In consequence of the amount standing to the credit of the capital account—£1,319 16*s.* 4*d.* having been received in donations and £1,500 under the provisions of the will of the late Mr. Arthur Cates—purchases were effected during the year of £430 Caledonian Railway 4 per cent. Debenture Stock and £2,606 7*s.* 5*d.* 2¾ per cent. Consols.

The increase of late years in the amount received in subscriptions has been steadily maintained, the total amount being £563 1*s.* 6*d.*, as against £522 0*s.* 6*d.* received in 1900. The growth of the Society's income has, however, been accompanied by increasing claims on its resources, and £813 was distributed in pensions and grants during the period under review, as against £790 expended in 1900. Out of the 56 applicants for relief, 22 were from Ireland and the provinces. It will be observed from the accompanying statement of accounts that the income account shows a deficit of £28 18*s.* 10*d.*

The Council have had under consideration the desirability of altering two of the by-laws. It is proposed to alter the wording of By-law No. 55 so as to bring it under the powers of the Trustee Act of 1893, by which the field open to the Society's investments may be enlarged without jeopardising the value of the security. In view of the additions to the capital account it is proposed to alter By-law 65, so as to increase the number of pensioners from six to ten. If this is carried into effect it will materially add to the happiness of a few of those who are dependent on the Society for yearly grants, by removing the feeling of uncertainty necessarily attached to this form of relief. Resolutions embodying the proposed changes in these by-laws will be submitted to you.

The Council desire to commend to your attention a proposal made by a subscriber, who has himself carried it into practical effect—viz., that the odd shillings received in fees by architects acting in arbitration cases should be presented to the Society.

It is with great regret that the Council record the irreparable loss sustained by the Society in the death of Mr. Arthur Cates. Mr. Cates was on many occasions a member of the Council (a position which he occupied at the time of his death); he acted from 1891–96 as the Society's Treasurer, and its present financial stability is largely due to his exertions during that period; and he was one of the Society's trustees. Mr. Cates's interest in the Society was sustained until the last; and the handsome bequest of £1,500 from one so familiar with its practical affairs is, your Council feel, a testimony both to the Society's usefulness and to its needs.

The Council have also to record with great regret the death of an old subscriber and member of the Council, Mr. E. H. Martineau, and of Mr. J. M. Brydon, who had liberally responded to Mr. Macvicar Anderson's appeal.

The Council desire to nominate Mr. Aston Webb, A.R.A., for election as trustee to fill the vacancy caused by the death of Mr. Cates.

The following gentlemen, being the five senior members, retire by rotation from the Council: Mr. T. M. Rickman, Mr. R. A Briggs, Mr. Arthur Cates (deceased), Mr. E. A. Gruning, and Mr. G. T. Hine. To fill these vacancies the Council beg to nominate:—Mr. F. T. Baggallay, Mr. J. J. Burnet, Mr. J. H. Christian, Mr. R. St. A. Roumieu, and Mr. George Scamell.

The Council of the Royal Institute of British Architects have granted office accommodation; and Mr. Locke and the other officials have been invariably helpful in any matter connected with the Society—services which are cordially recognised and appreciated.

LIST OF DONATIONS RECEIVED IN 1901.

*Donations marked thus * were received in response to Mr. Macvicar Anderson's appeal.*

	£	s.	d.
Aberdeen Society of Architects	5	5	0
*Anderson, J. Macvicar	100	0	0
*Anderson, Dr. Rowand	25	0	0
Aitchison, Prof. G., R.A.	1	1	0
*Awdry, Graham C.	25	15	0
*Baggallay, F. T.	5	5	0
Bromley, A. N.	5	0	0
*Brydon, J. M.	25	0	0
Burnet, J. J., A.R.S.A.	10	0	0
*Charles, Miss B. A. *Charles, Miss E. M.	10	10	0
*Christopher, J. T.	30	5	0
*Currey, Percivall	10	10	0
Davies, David	0	5	0
Devon and Exeter Society of Architects	2	2	0
Drury, E. Dru	5	0	0
*Emerson, William, P.R.I.B.A.	50	0	0
Edis, Col. R. W., F.S.A.	5	5	0
*Florence, H. L.	52	10	0
*George, Ernest	10	10	0
Glover, W.	1	1	0
Good, Mrs.	89	19	4
*Grayson, G. E.	50	0	0
*Gruning, E. A.	100	0	0
*Hall, Edwin T.	25	0	0
Hayward Bros. and Eckstein	1	1	0
*Hills, Gordon P. G.	2	2	0
*Hine, G. T.	100	0	0
*Inskipp, George	25	0	0
*Jackson, T. G., R.A.	3	0	0
King, C. R. Baker	1	1	0
*King, Zeph	5	5	0
Liverpool Society of Architects	3	3	0
Manchester Society of Architects	10	10	0
*Morrison, Charles	100	0	0
Nottingham Architectural Society	15	15	0
Romaine-Walker, W. H.	5	5	0
Roumieu, R. St. A.	3	3	0
*Shaw, R. Norman, R.A.	10	10	0
Shewbrooks, E.	1	1	0
Smith, J. R.	1	1	0
*Seth-Smith, W. H.	5	0	0
Snell, Alfred Saxon	9	0	0
Snell, H. Saxon	10	10	0
Spiers, R. Phenè	1	1	0
Taylor, Sir John, K.C.B.	2	2	0
*Thacker, S. J.	20	0	0
Thomas, J. L., F.S.A.	2	2	0
*Wallace, L. A.	100	0	0
*Waterhouse, Alfred, R.A.	100	0	0
Watson, Wm.	1	1	0
*Webb, Aston, A.R.A.	100	0	0
Whitley, C. T.	5	0	0
Worshipful Company of Salters	21	0	0
*Worthington, Thos.	10	0	0

NEW SUBSCRIBERS 1901.

Brown, G. F.	1	1	0
Caws, F.	1	1	0
Curtis, R. L.	1	1	0
Grieves, H.	1	1	0
Hall, John	0	10	6
Legg, H. A.	1	1	0
McClelland, W. S.	2	2	0
Read and MacDonald	2	2	0
Ryde, Frank C.	1	1	0
Society of Architects	5	5	0
Whinney, T. B.	2	2	0
Wigglesworth, H. H.	2	2	0

The Chairman, Mr. J. Macvicar Anderson, in moving the adoption of the Report and Balance Sheet, referred in regretful terms to the death of Mr. Arthur Cates, of whose loss the Council rightly used the word "irreparable," for he had not only given liberally to the Society, but had devoted much time and thought to its welfare. Two others had also passed away, viz. Mr. Martineau and Mr. Brydon, the death of the last-named being particularly sad. As to the finances, they must all feel gratified at the improvement of affairs, but he thought they should not rest satisfied. They must press on and do better, and still further improve the position of the Society. The income was not as satisfactory as it ought to be. The expenses of the Society were comparatively small, owing to some extent to the Institute giving them the use of their offices. A suggestion had been made as to increasing the income, and he would suggest that when an architect got anything like an important commission he should give something as a thank-offering to the Society. If that were done it would result in a considerable increase in the funds of the Society.

At the Annual General Meeting Mr. W. Hilton

Nash, the Honorary Treasurer, gave a donation of £10. 10s.

Mr. E. Buckle and Mr. George Hubbard have been elected the Society's Auditors for the ensuing year of office.

REVIEWS.

ELY CATHEDRAL CHURCH.

The Cathedral Church of Ely. By the Rev. W. D. Sweeting, M.A. 8o. *Lond.* 1901. *Price* 1*s.* 6*d.* (*Bell's Cathedral Series.*) [*George Bell & Sons, York Street, Covent Garden.*]

England affords many good subjects for a combined historical and architectural treatment, and not the least attractive is Ely. Its lonely position in the midst of the Fens gives it a character peculiar to itself, and for long made it a camp of refuge or position of military strength. The romantic story of Hereward's great defence has been made familiar by Kingsley; and even during the great war of a hundred years ago we hear of the Norfolk gentleman who kept his carriage and horses constantly ready to carry him to Ely in the event of Bonaparte's landing. The vicissitudes of the foundress herself make a long narrative, and the after-story of Ely is full of picturesque incident.

The spirited Norman Theodwin refused to accept the Abbacy, even at the hands of the imperious Conqueror, till all the possessions of the convent had been restored. One of the visits of Canute, who seems to have had an affectionate regard for the place, gave to our literature the well-known lines (a mere fragment, unfortunately):—

> Merie sungen the muneches binnen Ely,
> Da Cnut ching reu ther by;
> Roweth, cnihtes, noer the land,
> And here we thes muneches sæng.

Edward the Confessor was educated in the Ely cloister, and his ill-fated brother spent the last days of his life within its walls. The association of both bishops and priors of Ely with the Court interestingly reappears more than once in later centuries. Mr. Sweeting gives a complete but somewhat cold and thin narrative of the stirring episodes and peaceful times which alternated in the Isle.

Architecturally, Ely forms almost an epitome of English Gothic, and affords at least one unique feature. Before the lantern was erected there was the somewhat rare association of a central and a western tower, an arrangement which Mr. Micklethwaite thinks may have been suggested by the Saxon predecessor of the present church. An early and typical Norman nave, a splendid late Norman and Transitional west front, a Lancet presbytery, an Edwardian choir and Lady-chapel and a consummate piece of mediæval carpentry in the famous lantern, leave only the last chapter of English Gothic unwritten—though here we are not without the valuable fragments of the late cloisters, part of the palace, and the rich chapels of two of the latest pre-Reformation bishops.

Mr. Sweeting's account of the fabric is clear and accurate, and he preserves the mean between too little and too much detail. At the same time he is quite surprisingly uncritical. He considers that the western bays of the nave show an "advance in taste" when compared with the earlier work to the east. And can the naves of Ely and Peterborough rank as "conspicuously the best examples of the period in England"? These and some other judgments will have to be reconsidered in preparing for a future edition.

Ely has suffered a good deal at the hands of the "Restorers." One of the leading principles of these gentlemen was—and sometimes, alas! still is—to clear out all work later than the middle of the sixteenth century. The practice is illustrated by the changes made since Mistress Celia Fiennes recorded in her diary her visit to Ely in the reign of William and Mary.

The book has a good plan and plenty of capital illustrations, including some interesting reproductions of old views. The publishers are to be congratulated on the completion of this useful series.

T. D. Atkinson.

Cambridge.

MINUTES. IX.

At the Ninth General Meeting (Ordinary) of the Session, held Monday 17th March 1902, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 24 Fellows (including 10 members of the Council), 28 Associates (including 3 members of the Council), 1 Hon. Associate, and visitors, the Minutes of the Meeting held Monday 3rd March 1902 [p. 228] were taken as read and signed as correct.

The President formally announced the decease of Sir Richard Temple, *Hon. Fellow*, and it was resolved that a letter of condolence be sent from the Institute to his widow, Lady Temple.

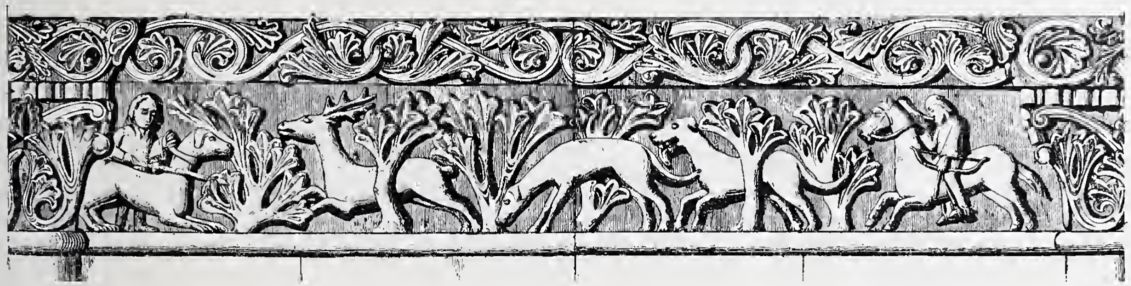
The decease was also announced of the following Fellows—viz. George Judge, elected *Associate* 1848, *Fellow* 1868; Walter Glynn Doolin, of Dublin, elected 1899.

The following Associate, attending for the first time since his election, was formally admitted by the President and signed the register—viz. Francis Danby Smith.

The President communicated the result of the Council's application to the King respecting the proposal to present the Royal Gold Medal for 1902 to the family of the late Mr. Bentley—viz. that His Majesty considered it undesirable to create such a precedent—and announced that the Council would nominate another person for the honour at the next meeting.

Mr. Sidney K. Greenslade [*A.*] having read a Paper on The Planning of some Recent Library Buildings in the United States, which was illustrated by lantern slides and a numerous collection of plans and photographs, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.



INLAY AND MARQUETRY. By W. Aumonier and Heywood Sumner.

Read before the Royal Institute of British Architects, Monday, 7th April 1902.

I.—VENEER WORK AND SOLID INLAY. By W. Aumonier.

I THANK you for inviting me to contribute to this evening's proceedings, and I ask you to please understand, first, that I confine my remarks entirely to work in wood, ivory, or shells, not touching on the question of inlays in metals, marble, or kindred materials; and, secondly, that I do not propose to give in any way a learned or historical Paper, but to speak only on matters which come absolutely within the scope of my own observation and experience.

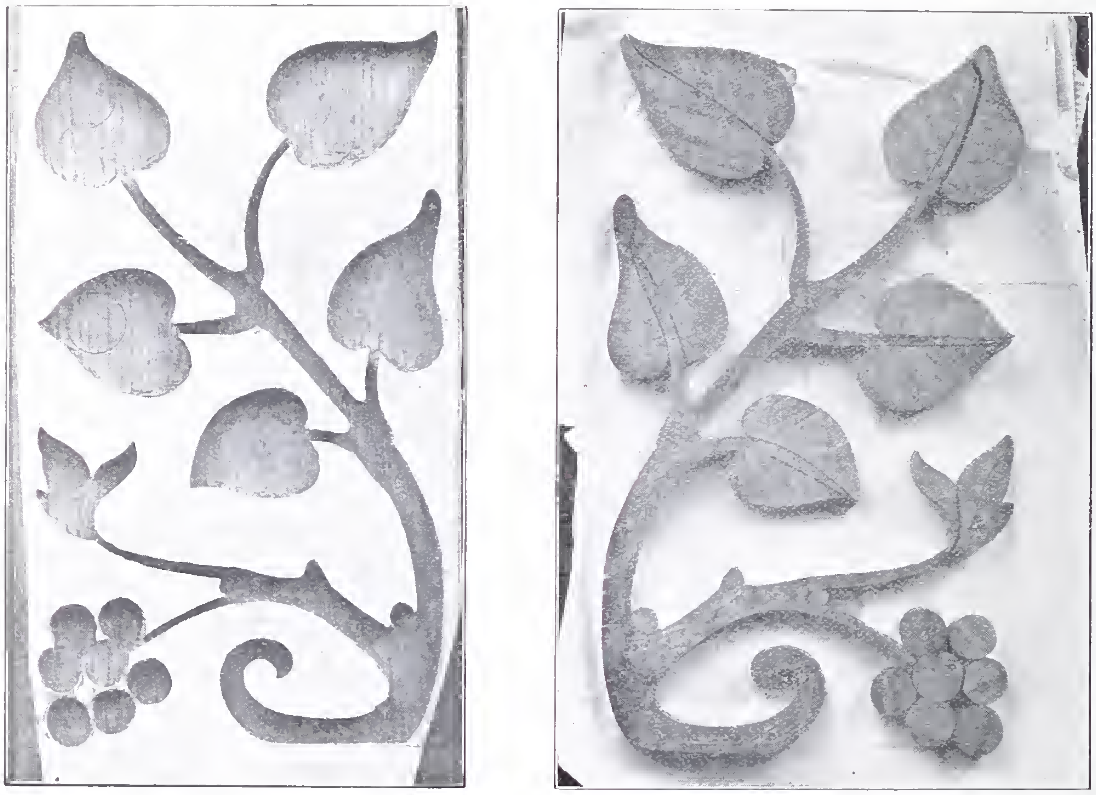
The title of the subject for consideration this evening is "Inlay and Marquetry." Now there are two distinct methods of proceeding in making inlaid wood. The one is to cut the design which is intended to be inlaid, and the ground or field, out of various sorts of veneers, all of the same thickness, fitting and fixing them together by thin paper on one face, and laying this, the open face downwards, as a whole upon a solid ground or board. This is absolutely and altogether veneered work all over. The other way is to cut your design out in separate pieces as above, but out of wood $\frac{3}{16}$ in. to $\frac{1}{4}$ in. thick, using the same processes of marking out in both cases, and then putting the complete print of the whole design on to, this time, a solid ground or board, sinking holes into this by carver's tools the required depth, and driving the pieces in, thus making a solid inlay.

These, though similar in appearance when finished, are so distinctly different in their manner of execution that it is an easy matter to fix them in one's mind and keep them there, each in its proper place, apart from the other, and think of them as different work.

Yes, I think that is easy enough; but what is difficult is to find one word in any known language that will enable you to differentiate between the two by merely naming them, and as a consequence there is great confusion in people's minds in talking about this subject, as in speaking airily of "marquetry" and "inlay" they or we never quite know which sort of work they mean—whether the solid inlay or the wholly veneered work. Nor can we know, because the usually accepted terms of description are the same in both cases, the English expression "wood inlay," the Italian "intarsiatura," and the French "marqueterie" applying in all cases equally for solid inlay and for veneered work.

But I want to clear the ground a little; and while I admit that the general term "inlaid wood" may cover the two sorts of work, yet for purposes of particular description or identification I wish to be allowed, for the clearer understanding of the subject, to consider "marquetry" to mean wholly veneered work, and "inlay" to mean the "solid inlay" I have before described; and inasmuch as "marquetry" is derived from a French word, and the French did little inlay of any sort before the time of Louis XIV., and since then have done practically none but veneered work, I think I have a certain amount of reason on my side in doing so, and I think that the English language would be enriched if we made up our minds boldly to use these two words always in this sense, so as to apply a distinct and individual word to describe each one apart from the other, as they are so obviously different in their manner of workmanship.

Now the process of working is this: Mark your pieces that are going to form your pattern anywhere about your wood, making suitable selections of grain and colour, and cut them out separately, so that the design is now lying about in loose pieces. Paste them on to a tracing of the pattern which you have already made on thin paper, in all their right positions, and place this as a whole on the face of the wood which is to form your ground colour, having first pasted white paper over its surface. Then, with transfer-paper between the two, you carefully mark all round each piece with a fine steel point. You now have the whole of your design clearly marked on your white-papered ground. Whether veneer or solid the process is the same thus far. Cut out your holes with a saw, if veneer, or, if solid, sink them with carver's tools, as before described. In the case of veneer work you then fit and fix all your pattern together with glue and thin paper, and lay in one piece on your solid



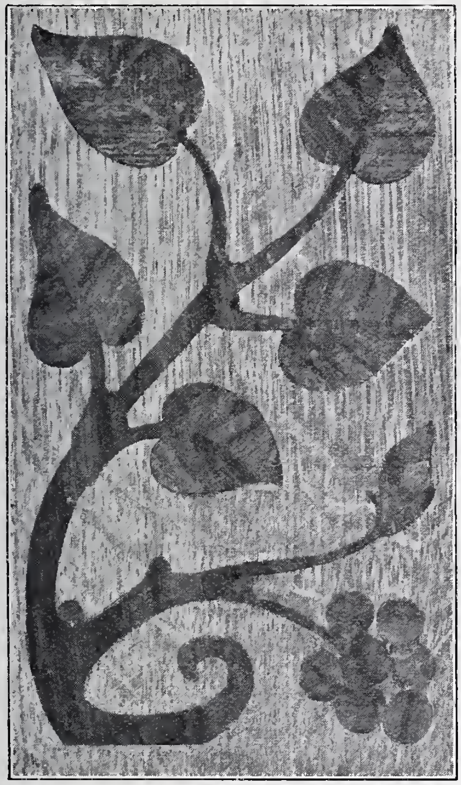
EXAMPLE OF THE METHOD OF SOLID INLAY BY W. AUMONIER.

The pattern, having been carefully pounced on to paper, is pasted down on to the solid ground, and with carver's tools the whole design is sunk in the wood ready to receive the sawn inlay.

The design is sawn out by hand and glued on to the pounced paper. It is now ready to be driven into the sunk ground.

ground or foundation, and keep down in a press till dry. With the solid inlay you merely drive your pieces in, with glue, one at a time, or in any way most convenient.

This is the old-fashioned way of marking the work in, but there is another method largely employed now, which is quicker in execution. The plan of proceeding in this case is to prick the whole design through thin white paper, thus making a pattern, and, pouncing this through several times on to other papers, you make several prints, which are then cut up as required and stuck on to the several pieces of wood which form the design, one whole print being reserved to paste complete on to the ground or field, so that each piece may be cut as separately as you like, but they are all bound to fit into the complete pattern when this is cut out of the ground, because all are cut from the same prints.



EXAMPLE OF THE METHOD OF SOLID INLAY BY W. AUMONIER.

The finished Panel.

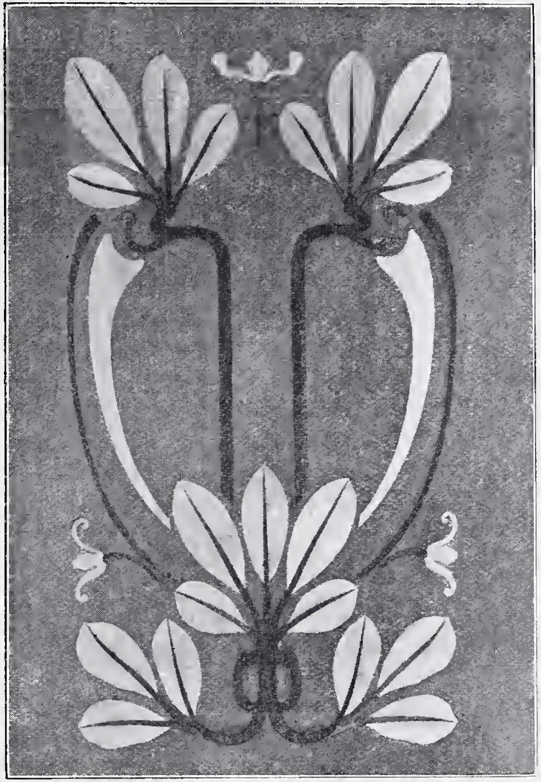


ILLUSTRATION OF SIMPLE VENEER MARQUETRY IN THREE WOODS.

While on this technical side of the question I may perhaps allude to the prevalent idea that in "marquetry" the design is actually cut at once through two or more pieces of wood held together, and that one piece drops into the other, as in a child's puzzle; but this plan is never followed in the best work. There each piece must be cut separately, so as to ensure accuracy of fitting.

Then there is another technical point that is perhaps interesting; I mean shading by hot sand. This is done to obtain the effect of soft shadow travelling in from the edge of a piece and gradually fading into light towards the middle. This end is accomplished by pressing the piece vertically, before it is laid, into a box of very hot sand, and holding it there until it has become sufficiently scorched to change the colour to the desired degree. Many pleasant effects of gradations of colour may be obtained by this process, which was largely used in some old work. It is well enough where it is used as an effect of colour, as colour alone, but not when it is employed to give an effect of roundness or relief. There I think it is wrong. But I shall have something more to say about that part of the subject later on.

So much for technicalities and meanings of words. But do not let us trouble too much about definitions. However, I have noticed they quote in the dictionary a delightful passage from Tennyson under the head of "Inlay," and if you will allow me I will read it, for I find that when a poet speaks you soon get beyond dictionaries in trying to catch the real significance of a word. He says:

> "The sloping of the moonlit sward
> Was damask work, and deep inlay
> Of braided blooms, which crept
> Adown to where the waters slept."

That is the picture I should like to have in my mind when thinking of wood inlay.—("Braided blooms," I think this is a very apt expression. Did you ever notice the shadows of plants and flowers cast on the cottager's window-blind, as seen from the outside? They are very suggestive of inlay.)

On the proper treatment of marquetry and inlay I can only give my own opinion, and personally I would say, first, avoid strong contrasts or too many different colours on the same panel. Perhaps I ought to modify this opinion (about strong contrasts) in the case of the use of precious material, such as ivory in ebony, or mother-of-pearl in rosewood. Such beautiful work has been, and can be, done in these combinations that one is disposed to forgive much for their sake. However I think, generally speaking, one should avoid strong contrasts of colour. Depend rather upon soft harmonies, such as are seen in the best examples of Louis-XVI. work, with their warm soft greys and yellows, or in the golden glow of the magnificent "inlay" in Pisa Cathedral. When I was in Pisa I could not get away from the idea that at some time or another the sunset sky had found its way into the cathedral and become permanently printed on the woodwork, and that even the tears of the kneeling saints—or sinners—had not yet washed it all away.

(In speaking of Louis-XVI. work I am not inviting you to admire it in all respects absolutely, because I know there would be an outcry, among some of my audience at least, if I did. But I speak only of its colours and harmonies, which I think are often very beautiful.)

Try and get a broad effect, produced by the quality and colour of the wood itself and by the direction of grain in which each piece is placed. Do not on any account use scratching or engraving on the surface of the inlay, least of all to express roundness or relief in form. Keep to an absolutely flat treatment, as you are dealing with a flat surface. Do not disturb the eye—or the perception of fitness—by trying to make your inlay look like something which it is not. It is flat; keep it flat in appearance; and, apart from any quality you may give your design, do not seek for other beauty in your work than that which the wood itself will give you. Wood is generous enough, and will give you a quite satisfying charm—if properly handled—with its ever-varying grain placed in different positions and seen under changing aspects. And if you must have lines to complete the drawing, let them be produced by saw cuts running in. These are more characteristic than scratches on the surface; and if you must have shadows produce them by the disposition of colours and grain of your separate pieces of wood, and not by scratched lines. Remember what Ruskin told us about "Stained Glass"—"Paint with glass, not on glass"—and I would say in reference to inlay, Paint with wood, not on wood.

Further, do not aim at too great fineness or intricacies and complications of lines in your design. These qualities do not belong to wood essentially, and can be attained better in other materials, such as the silver wire, twirled by the flying fingers of a Genoese filigree-worker, and a spider can weave you a web with a finer line than all. No; go for a broad effect, principally of masses—lines as well, used as stalks or growth in the design, but not too fine or intricate, and never scratched on the surface.

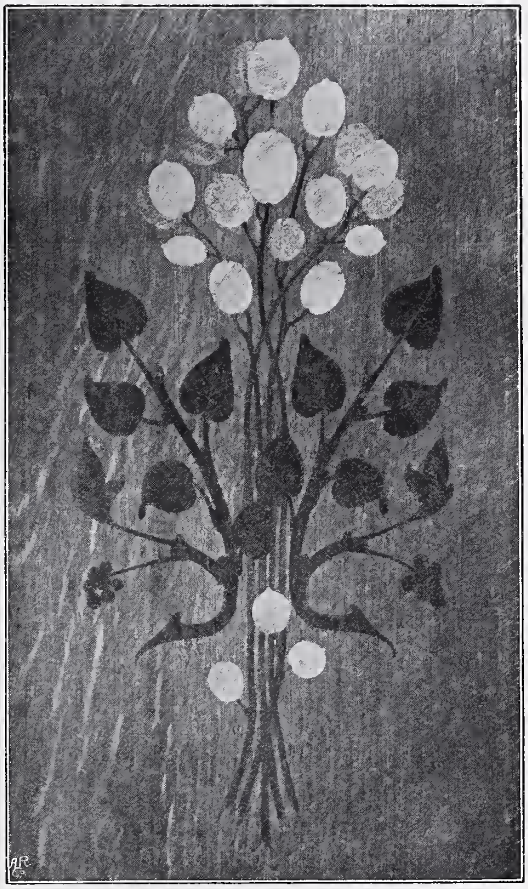


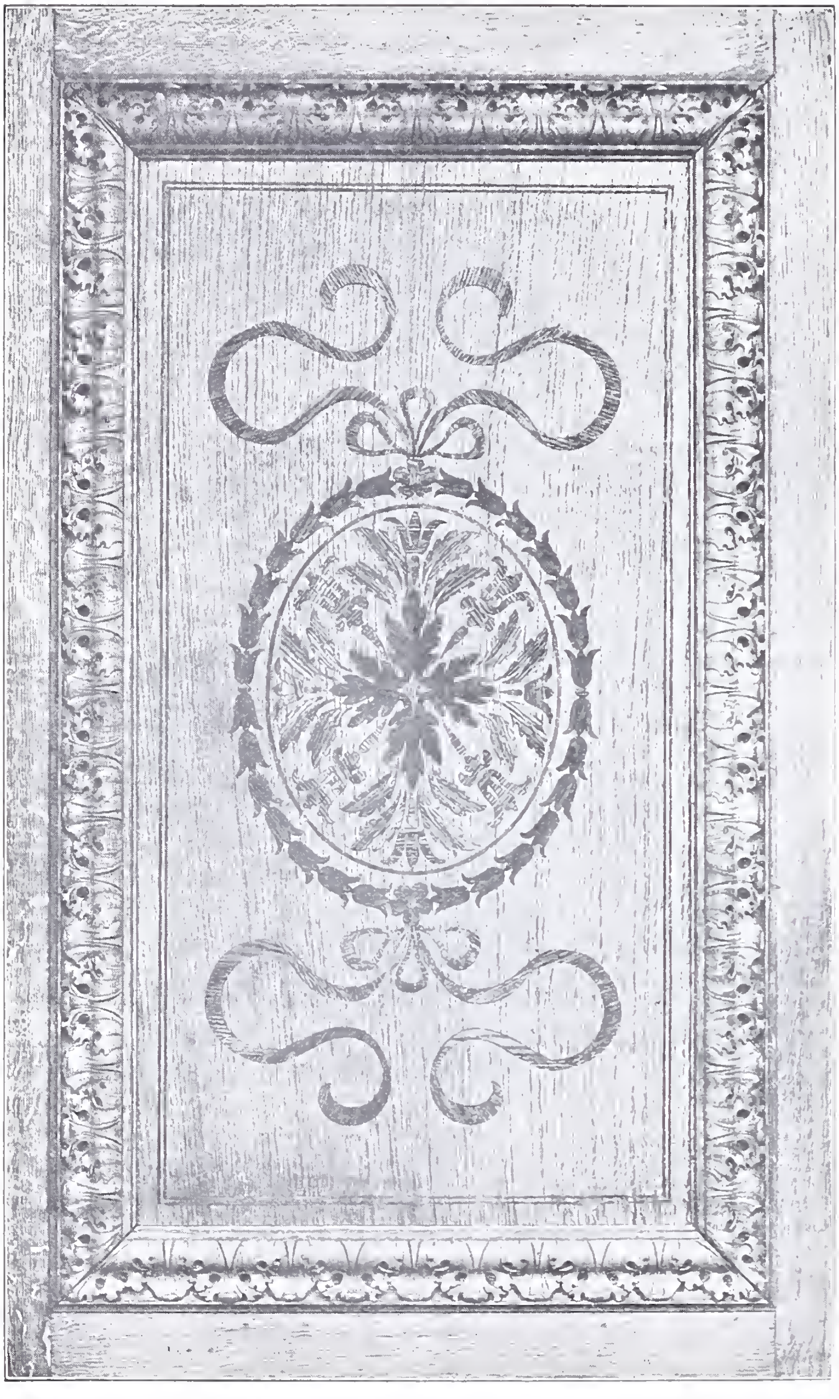
ILLUSTRATION OF VENEER MARQUETRY OF SIMPLE DESIGN IN FOUR WOODS.

Referring again to my remarks just now about strong contrast and too many colours on the same panel, while I am prepared to withdraw any positive dictum about strong contrasts—if under certain circumstances they are felt to be wanted—I withdraw nothing I have said against using too many colours in one subject, or of scratching or engraving on the surface of the work, because I have noticed a tendency in some cases towards the attempt to make too much of a picture of "inlay"—which cannot be passed over without allusion in a Paper of this sort. I would say, do not try to emulate the painter in designing inlay. He, with his unlimited palette of colours, can easily attain to higher flights of fancy than are possible to you with your pieces of wood. He can give you mystery, and he can give you dreams, and, like the language of diplomacy, he can so dress up an untruth as to make it appear like a truth. All this is comparatively easy to him, and by so much his work must take a higher standard than yours. So it is useless to try and imitate it in wood.

Why, a painter can give you a single face that will tell the complete history of a whole life; and you shall see in that face the impress of years spent in labour, love, and duty bravely done, and through and above it all shall shine the light of abiding faith in a Divine Power. In three inches of canvas he can give you all this. But you, with your pieces of wood and ivory, though you engrave an inch deep, and use all the colours of a Joseph's coat, can do none of these things, and by so much as you try to do them beyond the limits of your material by so much will your work lose dignity and individual character.

All that you can hope for is to learn the value of set forms. All that you can attain to is the right use of these and the reticent employment of such colours as you have at your disposal. The diplomatist's language is of little use to you. You must say "yes" or "no" in a straightforward manner, and only speak in such language as the wood itself gives you.

I should like now to say something about the difference—as it appears to me—between the quality of marquetry and inlay, taking these words to bear the meaning I attached to them at the beginning of my Paper. I think then that "marquetry," being wholly the work of the saw, however beautiful the design may be at the first, is apt to become a little too soft



SOLID INLAY PANEL WITH CARVED BORDER TO FRONT OF BISHOP'S THRONE, ST. PAUL'S CATHEDRAL.

(Carried out by W. Aumonier.)

and undulating, and, if I may say so, perhaps a little bit flabby in parts, under the influence of that more or less mechanical instrument; while on the other hand inlay, being partly the saw's work and in part the work of carver's tools—cutting in and working by hand—is capable of receiving a stronger, more vigorous treatment of outline, and is therefore likely to, and often does, reach an individual and life-like character of form unattained by the saw alone, which stamps it as finer work—from an art point of view; and even the occasional inaccuracies of fitting, and consequent different thicknesses of joints here and there, give it a distinct charm of its own—above all the more exact qualities of its sister art. Also it has a more pleasing quality of surface, especially as in course of time the inlay, being thinner, shrinks more than the solid ground and thus becomes a little lower than the general surface, making a delightful play on the face of the work. Therefore one can hardly leave the study of the finest examples of marquetry or wholly veneered work without feeling that although in that the last word has been spoken in consummate craftsmanship, yet there still remains something to say for the more (if you like) crude work in solid inlay. There is one point that is interesting to note in connection with solid inlay which I have not yet touched on. It is that in the early work it is evident they had no glue as we know it—certainly not of the quality and strength we have—because one frequently finds the inlay pinned in with a number of wooden pins, which circumstance, by the way, gives quite a piquancy and quality of its own to the work.

I fear I am tiring you, but I want to speak, if I may, of another sort of inlay, which if I speak of I only do so to condemn with all the strength I can. I mean solid inlay with the inlay left in relief and afterwards carved; and if you want to know how to do this I should say, Don't try it. It is an abomination, and, like a "Will-o'-the-wisp," will only lead you astray—astray from the paths of truth and from the paths of art. And why I would strongly condemn this sort of work is briefly this: Carving—as carving—is not improved by having its ground made of a different colour from itself. Inlay—as inlay—is not helped by having its surface frittered away by the undulations of carving. In the name of the eternal fitness of things, do not mix these two crafts together which need not each other's aid. Each one has a distinct and patent beauty of its own—inlay by its harmony of flat colour; carving by the inimitable combination of light and shade, ever caught on its palpitating surface, irrespective of all colour whatever.

In conclusion I thank you all for your kind reception, and for listening to me to-night, and I feel that I cannot do better, at the last, than ask you to sweep away all miserable scratchy, uncharacteristic work, and get back to the face of Nature for inspiration in this as in other arts (and by "getting back to Nature" I mean get back to the aspect of Nature generally. Do not on any account copy a leaf or a flower botanically, but work in sympathy with the pictures which Nature is for ever spreading before us, without attempting to show more detail on a given square inch of your design than can be appreciated while looking at the whole). In this favoured country of ours there is scarcely a square yard of forest, garden, field, or hedgerow that will not furnish forth a suggestion, in line and colour, for the decorative treatment of an inlaid panel. Get back to the "braided blooms," to the shadows of plants on cottage blinds, and under the open sky watch the clouds cast their impress on the hushed bosom of the sleeping sea. Get back to Nature, and she will give you beauty, and she will teach you fitness, and these two—beauty and fitness—are key-notes to the whole great concert of decorative art.

II.—ON COLOURED WAX STOPPINGS. By Heywood Sumner.

MOST Papers begin with an apologia—a disclaimer of authority on the part of the author—an appeal for indulgence because of the writer's youth, or age, or lack of time, or literary inability, or what not; and I have no wish to depart from a form which at least is founded upon experience and the survival of apologetic Paper-readers. We all hope that modesty may mollify our audience and that we may have the good fortune to really meet and talk to the "gentle reader" whom our forefathers used to woo in their urbane prefaces. Accordingly I apologise for this Paper—a Paper which really is better described as a practical note, and a practical note, moreover, on the simplest form of inlay in wood—namely, coloured wax stoppings.

The dictionary tells me that "inlay" consists of "pearl, ivory, choice woods, or the like inserted in wood." Well, you cannot compare coloured wax stoppings with such inherently beautiful materials as "pearl, ivory, or choice woods," therefore you must accept simplicity of material in the means at your disposal; at the same time, you may be reminded that fine results have been achieved in the past by these simple means, and so it may be worth while to recall attention to a form of inlay which has fallen into neglect.

If anyone will go to the Victoria and Albert Museum, in one of its darkest corners he will see a number of *cassones*, old chests, covered with incisions and carvings. These chests have been filled in with coloured wax. On the oldest, which dates back to 1530, a certain amount of colour still remains in the incisions, and where the colour has come out, from its being incised, it still tells quite firmly, as designed. What were these *cassones*, and how were they done? So far as I know, they were the wedding gifts of fairly well-to-do people to the bride—at least from the parents to the bride. They held her costumes—her trousseau. On the outside of them were carved romantic allegories, as was quite fitting in a piece of furniture that had so romantic an origin. You wonder how this was done. When you look a little closer you find that the work is incised, and that the incisions have been filled in with coloured wax—green and red wax as a rule. They had three ways of expressing their design in this method: it is either done by spaces of colour silhouetting the figures, or else it is done by lines, or it is done by spots—and in the lines and in the spots you will find nearly all the stopping has vanished; but in the larger spaces you will see that the stopping has remained fairly firm—for 500 years. I attribute that to the fact that the larger spaces would be got out with small gouges and chisels, and that therefore there was a key at the bottoms; and that where the lines and the spots came it was with the blade, just cut down like engraving, and that there was no key in the bottoms in those lines, so that in time the stopping came out. That has been the case. But I think that you will be surprised to see how beautiful the thing still is; it has faded, yet it still possesses the bloom of its early beauty. You feel what a beautiful thing it is. It is not the least like a painting, part of which has been effaced, and which always has a look of disease—an appearance of something or other gone wrong; but this merely looks a little faded. Just as in another art altogether—the *carillons* of Bruges—although some of the bells are wanting, they still sound extraordinarily beautiful, with that dim misty sound of broken air. So in these old *cassones* there is a broken air of melody in the design that still remains a thing of beauty, although the wax-coloured inlay has gone.

These old examples show what fine things can be done in this method by artists who understand the graphic possibilities and the limitations of flat surface decoration.

About fifteen years ago, urged on by my admiration of these old examples, I made several small experiments in this method, and as I have been asked by the Council of the Royal Institute of British Architects to give the results of my experience—which has now stood the test of some time—I am glad to repeat the methodical notes which I contributed on this subject to the July number of the *Art Journal* last year. First trace your design on the panel of wood to be incised; cut it, either with a V-tool or knife-blade fixed in a tool handle; clear out the larger spaces with a small gouge, leaving tool-mark roughness in the bottoms for key; when cut, stop the suction of the wood by several coats of white hard polish. Your coloured stoppings you must make. Resin (as white as you can get it), beeswax, and powder distemper colour are the three things needful, and *Spon's Workshop Receipts* will put you into the right way of making your stoppings—with this reservation, reduce the proportion of resin, as this tends to make the wax over-brittle. For running the melted wax into the incisions—that is, for the inlay—I have made use of the small funnel with handle and gas-jet affixed which I have here: by means of indiarubber tubing it is attachable to the nearest gas burner, and thus a regulated heat can be applied to the funnel. When thus attached and heated drop pieces of wax of the intended inlay colour into the funnel, and soon there will be a run of melted wax dropping from the end of the funnel-spout, which is easily guided by means of the wooden handle, and thus the entire panel may be inlaid with the melted wax. When this is all done clear off the superfluous surface wax with a broad chisel so as to make the whole surface flush, and then, if you have rightly stopped the suction of the wood by the white hard polish, your panel should all tell with clean sharp contrast of flush wood-lines against coloured stopping surface, colour stopping lines against wood surface : if the suction is not stopped the hot wax will enter the grain of the wood and stain it.

I have also filled in incised panels successfully with japanner's gold size and powdered distemper colour, using a palette knife to distribute the slab mixture. This sinks as it hardens, and will probably need a second filling in to make a flush job.

In both cases, I should add, the stopping has proved durable and tenacious, but the melted wax gives a more interesting and accidental result, and is better suited for designs that depend on spaces of colour-stopping for their effect.

Individual preference will suggest the wood to be used for this work, a close grain being the one thing needful. The specimens I have brought here are lime, birch, and a box of kauri pine. The last you will see is not sufficiently close-grained and is slightly wax-stained in the inlay, but it was made where choice of woods was limited. As to design, that which is suited to this sort of inlay may be compared to a broad sort of engraving. The lines must be wide enough to hold the wax and the spaces of colour must have occasional ridges—like cloissons—in order to hold the wax and to keep the flush surface of the panel when the chisel shaves it down ; but within certain limits, which must be felt, the manner of design is more free than is the case with inlay composed of veneers of hard material ; and the absence of beauty of material—*e.g.* pearl, ivory, or choice woods—must be forgotten in the beauty, fancy, and austere freedom with which the incised decoration is expressed. Certainly I think that the specimens which I have spoken of in our Museum show all these qualities of design—beauty, fancy, and austere freedom of handling ; and accordingly I cannot do better than to urge the claim of these old relics to be studied both for method, application, and romantic design of coloured wax inlay in wood, and to hope that others may be fired with the desire to further experiment in this simple method.

As to its application, I will not suggest beginning with results—with such fine results as the old examples to which I have called attention, but will turn to real homely requirement, from which a more stately application might arise. I think that we have in our time lost a number of nice little simple household things that our forefathers used to enjoy. Our grandmothers, when they made tea, used to have a tea-caddy. They had a nice tea-caddy with delightful inlay. Where is that tea-caddy gone ? We drink more tea than ever, but the tea-caddy has departed. Then some of us smoke cigarettes, but the cigarette-box makers do not seem to care to use this process of inlay. Again, when I was at school I had a nice brass-bound desk with a secret drawer in which I was always hoping to find money. Those are quite things of the past. When I send my boy to school, and ask for a desk, I get a deadly dull thing with a lump of brass in the middle, that a boy, if he tried with both hands, could not get fond of. Then, again, clocks. Just think of the beauty of a clock-case. We all want to know the time nowadays, and we bustle more than ever ; but for modern artistic clock-cases there seems very little demand. There is a demand for chiming clocks—why I do not quite know, since they are maddening things. But no one seems to crave a stately clock that will make him feel a better sort of man ! This qualification is very true, for if you have a fine thing in your house you try to live up to it. There is another neglected thing, the barometer. It seems odd to me that so admirable an instrument has never suggested fine craftsmanship to the imagination. Why should not craftsmen in inlay give us these quiet homely things that we are always needing and using? If anything I have said to-night were to turn our really skilful cabinet-makers—the men who understand the whole mystery, like Mr. Aumonier—to this very simple side of the craft, I should feel that I had done a very good evening's work.

DISCUSSION OF THE FOREGOING PAPERS.

The President, Mr. William Emerson, in the Chair.

Mr. AUMONIER, at the request of a member, called attention to the chief points of interest in the specimens brought from the Victoria and Albert Museum, and in doing so referred to the prevalent idea that marquetry was cut out of two or three veneers, and that one piece dropped into another like a child's puzzle. That idea was altogether wrong. Each piece was cut separately.

Mr. J. D. CRACE: Mr. Aumonier is mistaken in saying that two or three veneers are not cut. I have seen it done over and over again.

Mr. AUMONIER: Only in crude work is the cut-out pattern used again in the space it leaves. Of course, the veneers are generally cut three or four together—for convenience.

Mr. CRACE: I have seen it in Elizabethan work, and I have seen it done in my own workshops.

Mr. AUMONIER: Elizabethan work cannot be called high technique. In first-class technique work it is never done; it is not possible, because you must bore a hole for the saw.

Mr. CRACE said he had listened with the greatest interest to Mr. Aumonier's Paper, and, although he was moved for a moment to differ from him on a particular point, he was very glad to add words of thanks for his very interesting Paper. It happened to be interesting to him because one of the first times he came into the rooms of the Institute was exactly forty-five years ago, when his father read a Paper on the subject, and brought there a professional marquetry cutter, who cut specimens in the room so that those present might see the process. Among other points, too, he illustrated the fact that two panels were constantly made of the reverse colourings by cutting through the ground and the pattern at the same process. The famous inlayers like Buhl, who did so much work of the best kind in France in the time of Louis XIV., habitually cut their work in that way; and it was quite a common thing to produce two pieces of furniture in which one was brass inlaid in the black, and in the other case the pattern was black inlaid in the brass; so that it was a very obvious utilising of what would otherwise have been very costly waste material. There was another point in this process which he thought Mr. Aumonier had not touched on. Instead of pouncing the patterns on paper, the finer French work had been done by engraving the pattern first in outline on a metal plate, and then transferring it to the paper. That, of course, was only worth doing where it was intended to repeat the design several times. The engraved plate gave a much finer line than the dotting of the pouncing, so that for fine work it was found worth while to engrave the design, and then print it on to the thin paper to work it from. As regards Elizabethan work there was a great deal of it existing in various parts of the country; much of it was very rough, but there were some very fine pieces—particularly he would mention those in Hardwicke Hall, where there was a good deal of old furniture that had been very little disturbed. Anybody visiting Hardwicke should not fail to inspect its interesting examples of English inlaid work. There were some beautiful pieces of Italian work to be found in almost all the principal towns of Italy; some of the finest were to be seen at Bergamo. Although he was quite inclined to agree with Mr. Aumonier about not combining carving with inlay, still it was very difficult to stand opposite the stalls in the Cathedral at Bergamo and repeat that opinion, because there was some of the most beautiful work, inlaid in relief and subsequently carved, in the pilasters that could possibly be executed: it was extremely delicate, and the effect was very fine and beautiful. There was, again, the well-known example in the South Kensington Museum—the marvellous cabinet made by Fourdinois for the Paris Exhibition of 1855. Nevertheless he agreed with Mr. Aumonier that it was not an art to encourage. When Mr. Heywood Sumner was mentioning the wax inlay, it reminded him that in Italian work there was another form of the same method, only not using wax but a "gesso" of glue and whiting. There were examples of furniture, cassones and other pieces, executed in that way, the ground having incisions made in it, just as if wood or ivory were to be let in, and then being filled in with a preparation of whiting and glue, with probably some linseed oil to set hard, then scraped off, when it resembled inlaid ivory. One of the most beautiful forms of inlay executed by the Italians was with ivory upon walnut wood or black wood, particularly on walnut wood, as less harsh than black. One ought not quite to taboo engraving on the surface, because sometimes it was almost necessary for explanation. In doing figures, for instance, where the eye had to be indicated, this could hardly be done by a saw, because the worker had to come right into the middle of the space to cut the lines—there was the process of letting the saw through to begin with. Still he admitted that the engraver should have a very subordinate part. As regards the tinting, no doubt stained woods were frequently used by the Italians, and still more by the French. A great many of those pieces which were so charmingly toned in colour now were very often brighter when they were made, and undoubtedly stained woods were used: practically there was no more reason against using stained wood than stained ivory. However, there was no doubt that the more nearly the work could be confined to the natural products, the more harmonious and as a rule the more beautiful the result would be. He had much pleasure in proposing a vote of thanks to both Mr. Aumonier and Mr. Heywood Sumner.

Mr. BUTLER WILSON [*F.*] seconded the vote of thanks. He had, he said, long taken a great interest in furniture, and more recently in inlay, to the extent that an architect could. To hear remarks on such subjects from craftsmen must always be interesting to architects. Probably the earliest examples of inlay were to be found in the Venetian work of the fourteenth century, when wood was inlaid on ivory boxes. Inlay was practically mosaic in wood; but it was something more. The desire to differentiate colour by means of inlay had taken many forms. In the sixteenth century they had inlays of coloured marbles. He might instance a particularly fine example to be seen at the Victoria and Albert Museum, a frieze of white marble, 3 ft. 6 in. by 9 in., inlaid with scores of variously coloured marbles. In the eighteenth century, both in Dutch and English work, they found examples of coloured straw-work which gave a wonderful appearance of elaborate inlay. Coming to the great inlayer Buhl, we found inlay carried further than it perhaps ought to be. We had at South Kensington many examples of this master's work. To instance one of these, he might mention an eighteenth-century *commode* of late Louis-XIV. period, of tortoise-shell, mother-of-pearl, and coloured ivories inlaid in brass. Also a console table in the same collection, of Louis-XIV. period, of engraved brass inlaid in tortoise-shell, the design being that of a triumphal car with attendants. In such examples as he had referred to he thought there was a misuse, or a misapplication, of materials. Hence, although excellent examples of technique, they were nevertheless bad art. The extravagances of Buhl reminded him of a visit to the island of Murano, where he saw some very good modern glass, but where they also offered him glass watch chains and glass slippers! He would much rather turn to the English oak panelling of the sixteenth century, such as that in the room from Sizergh Castle, a panel of which he observed was among the exhibits that evening. The inlay of holly and bog oak, although of simple design, seemed to him most agreeable to the comparatively rude style of the apartment. The panel as exhibited did not perhaps look particularly rude, but the room was as a whole rather on the coarse side. It would be observed that there was no stopping between the inlay and the oak—the saw-cut was clearly to be seen. Amongst other examples of inlay which he admired he might mention those of the choir stalls in San Miniato al Monti and Santa Croce at Florence. Thus it seemed to him that inlay of a simple and restrained character would best meet the general needs of English domestic work.

Mr. W. G. WILSON [*A.*] supported Mr. Aumonier's contention that each piece of veneer must be cut separately, in order to ensure accuracy of fitting.

Mr. AUMONIER, referring to Mr. Crace's remark about the engraved pattern, asked if any engraved pattern could give a finer line than the pouncing on the paper which he exhibited.

Mr. CRACE said he was not comparing the excellence: but, as a matter of fact, the French inlayers did engrave metal plates and print from them. He had seen it done in France.

Mr. AUMONIER said that nearly all the marquetry cutters in England were Frenchmen, and worked on the system he described. Quite as fine a line would be got by pouncing as by engraving. Again, there was nothing they could do with engraving in the way of eyes but what they could do with the saw cut. They were not obliged to put the saw cut through the wood if they wanted to make an eye; they simply had to bore the hole and saw out a separate piece to make an eye. He would not have a single line engraved on marquetry or inlay. The wood should be made to speak for itself. The grain must be arranged in such a way as to give the feeling of the subject they wished to represent.

The PRESIDENT said he had been rather surprised that no mention had been made of the elaborate inlay work of the East, in Egypt and India. Mr. Butler Wilson had referred to the smallness of the pieces in some marble inlay he had seen. He should like to mention the work of this kind at the Taj at Agra. He had made some drawings of this work, and showed them at the Institute some years ago. They represented a number of roses on the tombs at Agra which were inlaid entirely with semi-precious stones—cornelians, agates, bloodstones, &c.: in the little roses, there were hundreds of these stones which could be covered by a shilling—with thirty-two pieces of cornelian or agate—and every joint could be covered by a hair. So far as he had seen work in Italy, France, Egypt or India, he thought the Oriental inlays in many respects were far superior to our Western examples. When he was with Mr. Burges, many years ago, he was very much interested in the inlays that he did for Worcester College Chapel, Oxford. They were some of the nicest specimens of modern inlay work that he had ever seen.

A vote of thanks was also passed to the authorities of the Victoria and Albert Museum, and especially to Mr. Purdon Clarke, for lending the specimens exhibited in the Meeting-room.

9, Conduit Street, London, W., 12*th April* 1902.

CHRONICLE.

The Royal Gold Medal, 1902.

The President, in announcing at the meeting last Monday the Council's new nomination for the Royal Gold Medal, recalled the mournful circumstance of the death of their previous nominee, Mr. J. F. Bentley, on the eve of his election, and reminded members that the Council had consulted the King's pleasure regarding the proposal to present the Medal to Mr. Bentley's family in recognition of his great services to architecture. The King had replied, sympathising with their motives for making the proposal, but thought it would create a dangerous precedent to present the Medal as suggested. The Council, therefore, had no other course than to nominate someone else. Their choice, the President said, had fallen on Mr. Thomas Edward Collcutt, and the Council that afternoon had nominated Mr. Collcutt for the honour. It needed, the President continued, no words from him to tell them of the work that Mr. Collcutt had done, and of his distinguished services in the interests of architecture, which had caused the Council to come to this unanimous decision. The election would come on in due course, and he had little doubt that the general body would duly give effect to the Council's nomination.

Architectural Copyright.

A communication has been received from Monsieur Georges Harmand, Avocat à la Cour d'Appel, Paris, to the effect that the law of artistic copyright has at last been extended in France to include works of architecture. M. Harmand, who is closely connected with the Société Centrale des Architectes Français, has been devoting his energies for many years to the accomplishment of this end, and must be heartily congratulated on the success of his efforts. Members will remember the exhaustive Paper read by M. Harmand before the Institute on the 4th April 1898 on "Artistic Copyright, with special reference to Architects." The full text of the official announcement in the "Journal Officiel de la République Française" is as follows:—

> *Loi étendant aux œuvres de sculpture l'application de la loi des* 19–24 *juillet* 1793 *sur la propriété artistique et littéraire.*
>
> Le Sénat et la Chambre des députés ont adopté,
>
> Le Président de la République promulgue la loi dont la teneur suit :
>
> Art. 1er.—Il est ajouté à l'article 1er de la loi des 19–24 juillet 1793, après les mots : "les auteurs d'écrits en tous genres, les compositeurs de musique . . ." les mots : "les architectes, les statuaires . . ."
>
> Art. 2.—Il est ajouté à l'article 1er de la loi des 19–24 juillet 1793 un paragraphe ainsi conçu : "Le même droit appartiendra aux sculpteurs et dessinateurs d'ornement, quels que soient le mérite et la destination de l'œuvre."
>
> La présente loi, délibérée et adoptée par le Sénat et par la Chambre des députés, sera exécutée comme loi de l'Etat.
>
> Fait à Paris, le 11 mars 1902,
>
> Par *le Président de la République*, ÉMILE LOUBET.
>
> *Le ministre de l'instruction publique et des beaux-arts*,
> GEORGES LEYGUES.
>
> *Le ministre du commerce, de l'industrie, des postes et des télégraphes*, A. MILLERAND.

The Artistic Side of Mr. Rhodes.

The *Times* of the 7th inst. has an interesting letter under the above heading from Mr. Herbert Baker [*F.*], architect of Groot Schuur, Mr. Rhodes's house in Cape Colony. The following are some extracts:—

> Artistic problems first presented themselves to his mind when, as Premier of Cape Colony, he made his home in the Cape Peninsula. His intense and genuine love of the big and beautiful in natural scenery prompted him to buy as much as he could of the forest slopes of Table Mountain, so that it might be saved for ever from the hands of the builder, and the people, attracted to it by gardens, wild animals, and stately architecture, might be educated and ennobled by the contemplation of what he thought one of the finest views in the world. . . .
>
> The ennobling influence of natural scenery was present in his mind in connection with every site he chose and every building he contemplated; such as a cottage he built, where poets or artists could live and look across to the blue mountain distance; a University, where young men could be surrounded with the best of nature and of

art; a lion-house, a feature of which was to have been a long open colonnade, where the people could at once see the king of beasts, and the lordliest of mountains; the Kimberley "Bath," with its white marble colonnades embedded in a green oasis of orange grove and vine trellis, looking to the north over illimitable desert. Such things would perhaps occur to most men, but with him they were a passion, almost a religion.

When first attracted by art problems, he characteristically probed down at once to bed-rock principles, and, though often crude, limited, and almost too "colossal" and barbarously big in his ideas, he had an extraordinary instinct for choosing the right from the wrong, when both were put before him, and grasping the essentials of truth and simplicity in art.

His first and greatest work in architecture was the preservation of the old colonial Dutch farmhouses, with their good colonial-made furniture, previously ignored and neglected, and the adaptation of their better characteristics to modern requirements. By so doing he influenced the public towards a respect for antiquity, and put a stamp of taste and originality on the present—and, it is hoped, the future—architecture of South Africa. This style was adopted without any pedantry or affectation, or, as some hinted, political motives, but with a genuine appreciation of its good points after the bad were discarded, and of its suitability to the country; caring little whether it was old or new, Dutch or English, as long as it was simple and good.

He entered fully into the modern spirit of honest workmanship, taking pleasure, for instance, in having the metalwork of his houses hand-made by local craftsmen. He started a tile manufactory near Cape Town for the main purpose of killing the blight of corrugated iron, and making the Cape Peninsula worthy in beauty for the capital of South Africa. . . .

Of his more monumental architectural schemes few have been realised. For these his taste lay in the direction of the larger and simpler styles of Rome, Greece, and even Egypt, recognising the similarity of the climate and natural scenery of South Africa to that of classic Southern Europe. He had the building ambition of a Pericles or a Hadrian, and in his untimely death architecture has the greatest cause to mourn.

LEGAL.

Interference with Ancient Lights.

THE HOME AND COLONIAL STORES (LTD.) *v.* COLLS.

The recent decision of the Court of Appeal in the case of *The Home and Colonial Stores* (*Lim.*) v. *Colls* sums up usefully the principles on which the Court will grant an injunction against actual or threatened obstruction of ancient lights. The case came before the Court on appeal from Mr. Justice Joyce, and was heard on the 2nd and 3rd December last.

The action was brought to restrain the defendant from erecting on the site of 44 Worship Street any building or erection so as to darken, injure, or obstruct any of the ancient lights of the plaintiffs.

The plaintiffs were entitled, for the residue of a term having about seventeen years unexpired, to a block of buildings, which they occupied for the purposes of their business, having a south front to Worship Street and opposite to the site of No. 44. The buildings formerly standing on the site of No. 44 were 19 feet 6 inches in height, and the defendant at the date when this action was brought had entered into a building agreement to erect on the site a building which, when completed, would be 42 feet in height. Worship Street at this point was about 41 feet broad.

Mr. Justice Joyce and the Court of Appeal held that the apprehended injury only related to two windows on the ground floor of the plaintiffs' buildings. This portion of the ground floor consisted of a large room 11 feet 10 inches high and of unusual depth, being upwards of 50 feet from the Worship Street front, and it had no windows or source of natural light at the back. It contained several desks used by clerks in the employment of the plaintiffs, and was fitted with electric light, which was ordinarily used in the back part of the room in the daytime; but the Court held on the evidence that if the defendant's building remained, the plaintiffs would have to consume and pay for more electric light than before.

No part of the defendant's new building would be high enough to reach any line drawn at an angle of forty-five degrees to the horizon from any point in the base or sill of either of the windows in question.

Mr. Justice Joyce, on 21st December 1900, held that, according to the law laid down by Mr. Justice Wright in *Warren* v. *Brown* (1900), the plaintiffs were only entitled to the *quantum* of light sufficient for ordinary business purposes; that, notwithstanding the erection of the defendant's building, the plaintiffs' premises would still be well and sufficiently lighted for purposes of occupancy as a place of business; and that their selling or letting value would not be decreased; and dismissed the action.

The plaintiffs gave notice of appeal. Since the notice of appeal the defendant completed his building; and on 13th November 1901 the decision of Mr. Justice Wright in *Warren* v. *Brown* was reversed by the Court of Appeal.

Mr. Hughes, K.C., and Mr. W. E. Vernon for the appellants. Mr. Bray, K.C., Mr. Leigh Clare, and Mr. Nutter for the respondent.

[Counsel for the respondent suggested that the question of damage should be referred to an arbitrator, but the Court refused to do this against the wish of the appellants.]

Lord Justice Cozens-Hardy on 20th December read the judgment of the Court as follows:

This appeal raises a question as to the nature and amount of evidence required to entitle a plaintiff to relief by way of injunction for the protection of ancient lights. The action was tried by Mr. Justice Joyce in December 1900. This is important, because at that date it had been laid down by Mr. Justice Wright in *Warren* v. *Brown* that the owner or occupier of a house has no legal right of action so long as he has left to him as much light as is ordinarily required for habitation or business, even though he has been deprived of a substantial amount of light, and has thereby suffered substantial damage. This view of the law was accepted by the defendant's counsel, and, as we read the judgment, was adopted by Mr. Justice Joyce. Mr. Justice Wright's decision has recently been reversed by this Court, and the true rule of law with reference to the interference with ancient lights has been authoritatively laid down thus: "If ancient lights are interfered with substantially, and real damage thereby ensues to tenant or owner, then that tenant or owner is entitled to relief." In this sentence "substantial" does not indicate any particular percentage. In *Back* v. *Stacey* [1826] an issue was directed by the Lord Chancellor whether the ancient lights of the plaintiff in his dwelling-house had been illegally obstructed by the defendant's building. Evidence having been given that the quantity of light previously enjoyed had been diminished, it was contended that the plaintiff was entitled to a verdict; but Chief-Justice Best directed the jury, in language which has been often cited with approval, thus: "It was not sufficient, to constitute an illegal obstruction, that the plaintiff had, in fact, less light than before; nor that his warehouse, the part of his house principally affected, could not be used for all the purposes to which it might otherwise have been applied. In order to give a right of action, and sustain the issue, there must be a substantial privation of light, sufficient to render the occupation of the house uncomfortable, and to prevent the plaintiff from carrying on his accustomed business (that of a grocer) on the premises, as beneficially as he had formerly done." And in *Parker* v. *Smith* [1832] Chief Justice Tindal directed the jury as follows: "It is not every possible, every speculative exclusion of light which is the ground of an action; but that which the law recognises is such a diminution of light as really makes the premises to a sensible degree less fit for the purposes of business." Without substantial interference there is no right of action, and in addition, in order to obtain an injunction, the plaintiff must establish substantial injury suffered or threatened. There is no standard or fixed amount of light to which alone a plaintiff is entitled. He must not be fanciful or fastidious. He must recognise the necessity of give and take in matters of this nature. But there may be real damage to the owner or occupier of a building used for particular purposes, or reasonably adapted for particular purposes, although there would be no real damage if the building were not used or reasonably adapted for such purposes. The application of these principles is far more easy when the building which is complained of has been erected, and damages only are claimed; but they have to be applied when the plaintiff comes for an injunction before the building has been erected. It is the duty of the Court to arrive at the best conclusion it can upon the effect which the proposed building if erected would produce, and if the Court is satisfied that in that event the plaintiff would have a good cause of action, the plaintiff is entitled, as a matter of right, to an injunction to prevent the defendant from interfering with his ancient light—or, in other words, to restrain the defendant from committing a wrongful act. The difficulty of applying the rule in a *quia timet* action may well induce the Court to scan the plaintiff's evidence with severity, especially where an angle of forty-five degrees is left. It is settled that there is no rule of law that a man may always build up to an angle of forty-five degrees, but in judging of the probable effect of a proposed building the Court may not unreasonably regard the fact that an angle of forty-five degrees will be left as *prima facie* evidence that there will be no substantial interference, and may require this presumption to be clearly rebutted by satisfactory evidence. This seems to be the result of the authorities.

It remains to apply these general principles to the present case. We propose to accept all the findings of fact by Mr. Justice Joyce, where they are clear, without demur, and only to refer to the evidence where there is no finding, or where, as it seems to us, there are inconsistent findings. [His Lordship then proceeded to state the facts as found by Mr. Justice Joyce in his judgment, and after reading the following passage from that judgment—"Various expert witnesses were examined, and as the result of their evidence I am of opinion that the proposed new building would not affect the selling or letting value of the plaintiffs' premises"—continued:] If that means that an ordinary purchaser or lessee would be content to get a building having the usual amount of light enjoyed by similar houses in this part of London, we see no reason to doubt it; but it is not a relevant statement. The plaintiffs are neither vendors nor lessees. They are occupiers; and their only desire is to use this room for the same purposes as heretofore and with the same advantages. And it seems to us impossible to hold that they will not suffer "real damage" if they have to consume and pay for more electric light than hitherto. . . . As we read the judgment of Mr. Justice Joyce, it is a finding in favour of the plaintiffs that real damage would result, though light enough would be left for ordinary purposes of occupancy as a place of business, and there is no finding that the interference is not substantial. Now there was, immediately opposite the windows in question, what I may call "a gap." The direct light which passed through this gap penetrated to a considerable depth into the plaintiffs' room. The interference with this light is "substantial" within the meaning in which the word is used. There being some obscurity on this point, it seems right to examine the evidence. [His Lordship then went through the evidence, and continued:]

In our opinion, on the balance of evidence, substantial interference and "real damage" will result; and the proper judgment would have been to grant an injunction in the settled form known as the *Yates* v. *Jack* form. But immediately after the action was dismissed with costs the plaintiffs gave notice of their intention to appeal. Notwithstanding this, the defendant has proceeded with and completed the erection of his building. Under these circumstances there is only one course open to us. We must reverse Mr. Justice Joyce's judgment and give the plaintiffs the judgment to which, according to our view, they were entitled. And we must grant a mandatory injunction requiring the defendant to pull down anything erected in breach of the terms of our injunction. This point was really decided by the Court of Appeal in *Parker* v. *First Avenue Hotel Company*. The defendant must pay the costs here and below.

Lord Justice Vaughan Williams.—The judgment which has just been read is the judgment of the Court; but I wish to add for myself that, so far as the rule of forty-five degrees is concerned, I doubt very much whether that rule, as the law is now settled, can be regarded even as a rough measure of the right of the owner or occupier of ancient lights.—*Condensed from the Law Journal Reports for February.*

MINUTES. X.

At the Tenth General Meeting (Business and Ordinary) of the Session 1901–2, held Monday, 7th April 1902, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 16 Fellows (including 10 members of the Council), 17 Associates (including 2 members of the Council), 2 Hon. Associates, and visitors, the Minutes of the Meeting held 17th March 1902 [p. 284] were read and signed as correct.

The President announced that the Council proposed to submit the name of Mr. Thomas Edward Collcutt to His Majesty the King as a fit recipient of the Royal Gold Medal for the current year.

The following applicants for candidature, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election—viz.: As FELLOWS (2), James Glen Sivewright Gibson (*A.* 1890); Henry William Chatters (Cheltenham). As HON. ASSOCIATE, Alfred Arthur Hudson (Wendover, Bucks).

The following candidates for membership were elected by show of hands under By-law 9:

As Fellows (2).

ROBERT LANGTON COLE [*A.* 1889].
JAMES MILLER (Glasgow).

As Associates (3).

ALFRED ERNEST BIGGS [*Probationer* 1895, *Student* 1897, *Qualified* 1901] (Felixstowe).
WALTER WATKIN ELLISON [*Probationer* 1895, *Student* 1898, *Qualified* 1901].
THOMAS MARSHALL SMITH [*Probationer* 1896, *Student* 1897, *Qualified* 1901].

Papers on INLAY AND MARQUETRY having been read and illustrated by Messrs. W. Aumonier and Heywood Sumner, a discussion ensued, and a vote of thanks to the readers of the Papers was carried by acclamation. A vote of thanks was also passed to the authorities of the Victoria and Albert Museum, and especially to Mr. Purdon Clarke, for the loan of specimens of old work in inlay for exhibition at the Meeting.

The proceedings then closed, and the Meeting separated at 9.45.

NOTES ON THE PRACTICE OF PICTORIAL MOSAIC.

By Clement Heaton (Neuchâtel).

MR. ANNING BELL'S Paper* introduces the interesting subject of pictorial mosaics; and having not long since executed several works in this art (partly designed by myself), it may be useful to send some of the fruits of experience gained.

Mr. Bell's work is delightful, and is a national honour. I had the greatest pleasure in seeing it, and congratulate its authors.

Such remarks as I have to make are in the way of completing what Mr. Bell has said, for the subject is one which bears dealing with from many points of view. If this art obtains anything like regular support we should probably see schools of mosaics, as we see them in painting—if, indeed, we cannot see their commencement already begun.

First, as to the *aim* in working. This is governed by contemporary education and thought. Up to the end of the fifteenth century all were unconsciously agreed to look at mosaics from the decorative or architectural standpoint, but afterwards this and other arts were wrested from their right place under the governing desire to imitate painting. This was one of the fruits of the Humanist movement, and was manifested in the tearing down of a goodly part of the mosaics at St. Mark's, and their replacement by designs by Titian and others. From then well on into the nineteenth century this idea prevailed, to be succeeded by a misunderstood reaction, which blindly reproduced what was thought to be archaically correct. We are happy in living in times when a general movement of thought has enabled us to set value on the old principles while seeking liberty of expression therein; but our predecessors could not possibly enjoy this position, and we must not be hasty to blame what was inevitable as part of an evolution of thought and education.

In Continental centres to-day the *quality* Mr. Bell so rightly seeks is little appreciated—if, indeed, at all; and the idea of copying servilely a picture or cartoon is all that is desired. One meets opposition in going further. And we see the treasures of the past, full of beauty, pulled down, to be replaced by new, clean, and correct work, which gives no pleasure. Nevertheless, it is true that quality of surface and of colour is of importance, and mere exactitude in reproduction is no use.

We must, however, guard against the other extreme of putting design in a secondary place. A general study of Romanesque colour decoration has led me to believe that in this epoch, when the great mosaics were produced, all kinds of colour decoration as an architectural complement were well understood—better than in the succeeding Gothic epoch. This knowledge amounted to a veritable science, making even common pigments appear precious. I am inclined to think that people, on seeing such buildings as St. Mark's, San Vitale, or the Battista Orthodoxa, run away with the idea that the beauty of what they see is all owing to the mosaics because these works are in mosaic, whereas one really admires Romanesque (or Byzantine) skill of design as expressed in mosaic. Even where pigment only has been used, we find much of the same skill and beauty,* and we can see failures in mosaic which prove that mosaic is no good apart from skill in design. Right technique will give better value to a good design and do something to redeem a bad one; but rightness of design will be of value even in technique which fails to give all the possible value to mosaic work; and by rightness I mean fitness as an architectural accessory.

One of the points raised in discussion is the return to archaic design. My experience has led me to see that there was definite reason for the character of design found in old work—usually so distinctive that one can say at a glance, "That is mosaic," just as one could say, "That is stained glass." Character comes as a result of following the lead of the material. Enamel (from which mosaic is made) when melted is a viscous mass like treacle or honey, spreading out on a slab into a round cake about three-eighths of an inch thick, which hardens into glass. This, when cut up by chisel-like hammers, flies into cubic pieces running from a cube into an oblong $\frac{3}{8} \times \frac{3}{8} \times 1$ inch, irregular in form, with surface tending to be concave or convex. If larger pieces are wanted we must use the side of the cake; but all ancient mosaic work is, I believe, made of the cubic pieces cut *across* the cake.

I have found that the pieces cut up by the primitive hammer are much more varied and interesting than those cut up by some mechanical tool in use to-day in Italy, and produce just the quality seen in ancient work. Byzantine work is built up of these squarish pieces; two sizes were used—small pieces for faces and hands, and larger ones for the rest.

Now note the action of this in design. Rounded curves are less easy to produce than flat ones or straight lines. *A certain severity of line and the use*

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* Journal R.I.B.A., Vol. IX. p. 25.

* An example of such painted decoration is to be found in the Chapel of St. Gabriel, Canterbury Cathedral.

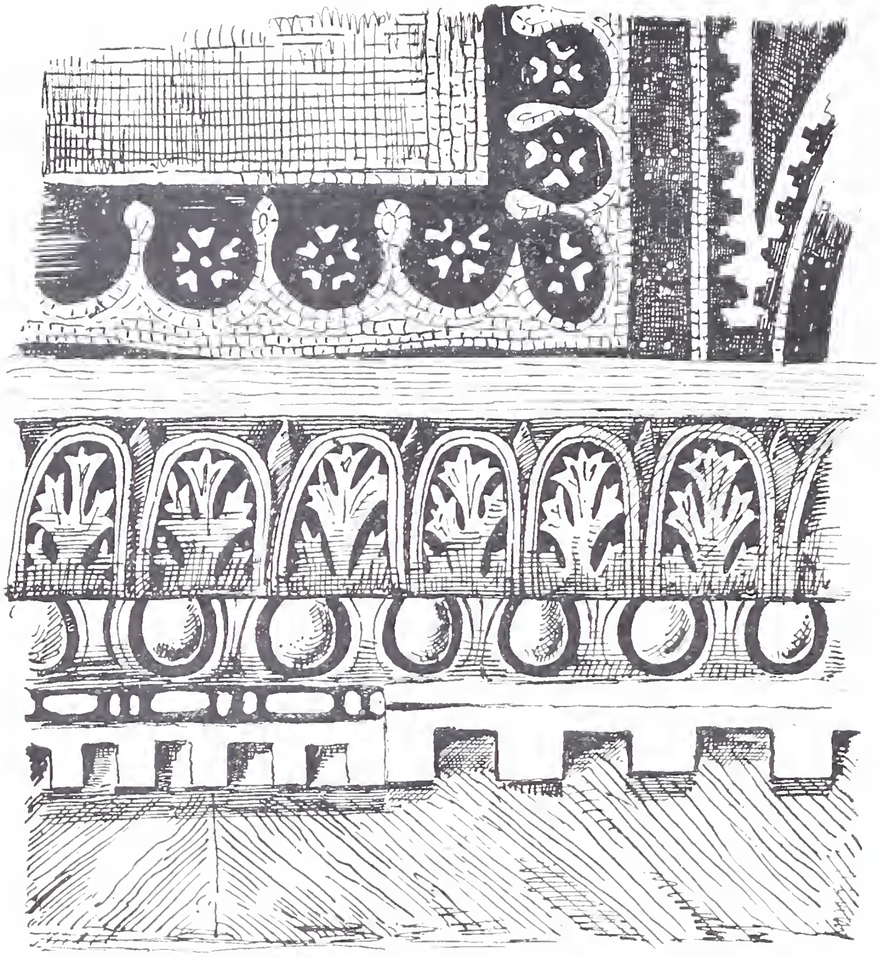

Fig. 1.—San Vitale, Ravenna. Sketch-note, showing the free way the ornament is worked in perfect harmony with the marble cutting below, which is full of black, marrying the mosaic to the marble. Parts of this border have been restored and "correctly" interpreted. This design is also a good example of forms suggested by the tesseræ.

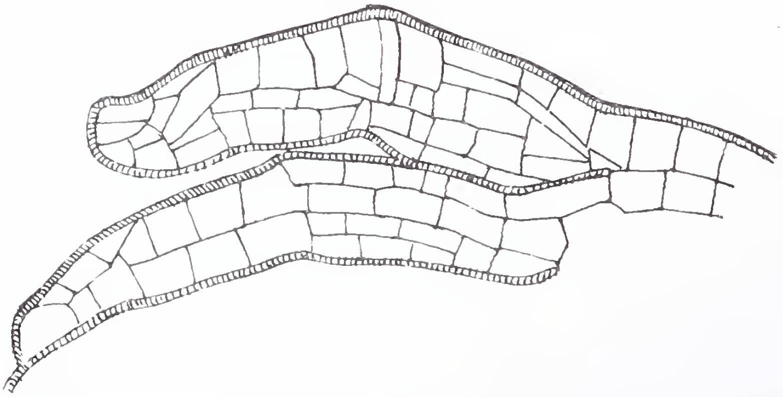

Fig. 2.—Part of a hand worked from the front, and the tesseræ worked directly on a soft cement, but fitted together by grinding to imitate a painting with shadows. Modern system.

of zigzag forms come naturally to be adopted. Further, one cannot vary a surface in gradations as with brushwork. One must deliberately step from one square or line of squares to another; and each line will be the thickness of the cake, or multiples of this thickness ($\frac{3}{8}$ inch), just as a wall is built of so many courses of bricks. So, as play of colour was necessary, an arbitrary, deliberate system was adopted to obtain it, which gives the peculiar character we recognise at once. I have adopted this rational system in designing work for the new Parliament House at Berne, and found work pleasant and successful.

But the modern idea of making a picture first, regardless of the glass, and *copying* it in tesseræ exactly, has led to a new and false system, in which the tesseræ are hacked and ground to fit together, so, by a *tour de force*, copying anything. This is quite another thing from the old art, in which no grinding was resorted to. I was told at Venice it was impossible to do figure-work without grinding; but we found it could be done, and the result was a texture just like old work. And at Paris I was told they had improved on the Italian method of grinding. While working from the front, as Mr. Bell recommended, they still used a system which is very different indeed from the old work, and which gives another effect. Let this be noticed, because merely working from the front in oil cement is not a cure for all the ills which have afflicted the art of mosaic. Some prefer this ground-down work, and criticise the irregular treatment unavoidable otherwise. So it is, as already said, a question of aim. But whereas the organic, natural process produces a rhythmic surface like the texture of human skin, the ground-down process is uncomfortable, and it seems highly reasonable to adopt the ancient practice.

Another important question is that of effect at a distance. Most modern work is composed of blended tints, which look flat at a distance, with a hard black line all round. Now the tendency in mosaics is just that they get to look too flat and too hard; and to increase this flatness and hardness is surely a mistake. I have the idea that the old masters of the art sought to avoid this flatness and hardness. They did so by a number of delicate usages which were traditions. They either did not use outlines or used outlines in colour (rarely black), and, while not blending the surfaces, they cut them up in gradated lines. So we have a very pleasing impression of soft, harmonious surfaces, with a spicy, sparkling quality at the same time. How wise this was! The Renaissance came along, and, brushing them aside, said, "You fools! You must stop this and copy the

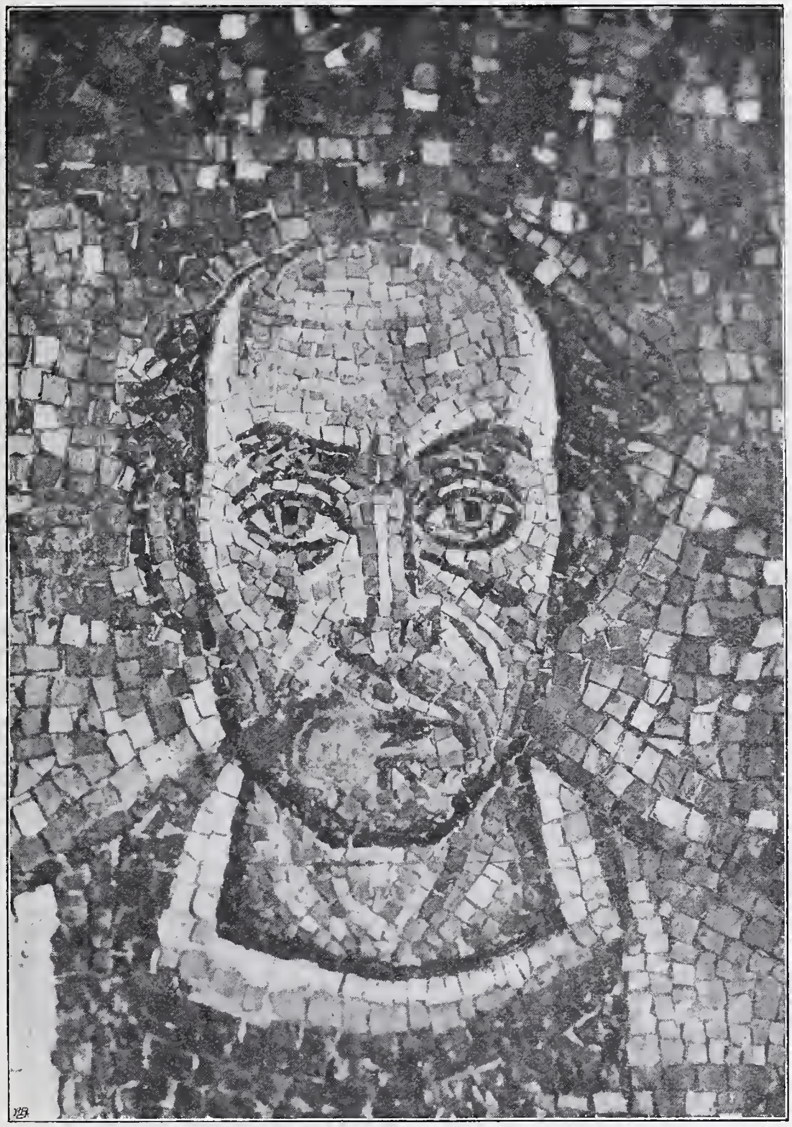

Fig. 3.—Example of Byzantine Workmanship, San Vitale, Ravenna.

painters." They did, and the traditions were lost; and our task is to pick up the threads where they dropped them and go on beyond, not repeating or imitating what they did, but expressing our ideas in the way they did theirs.

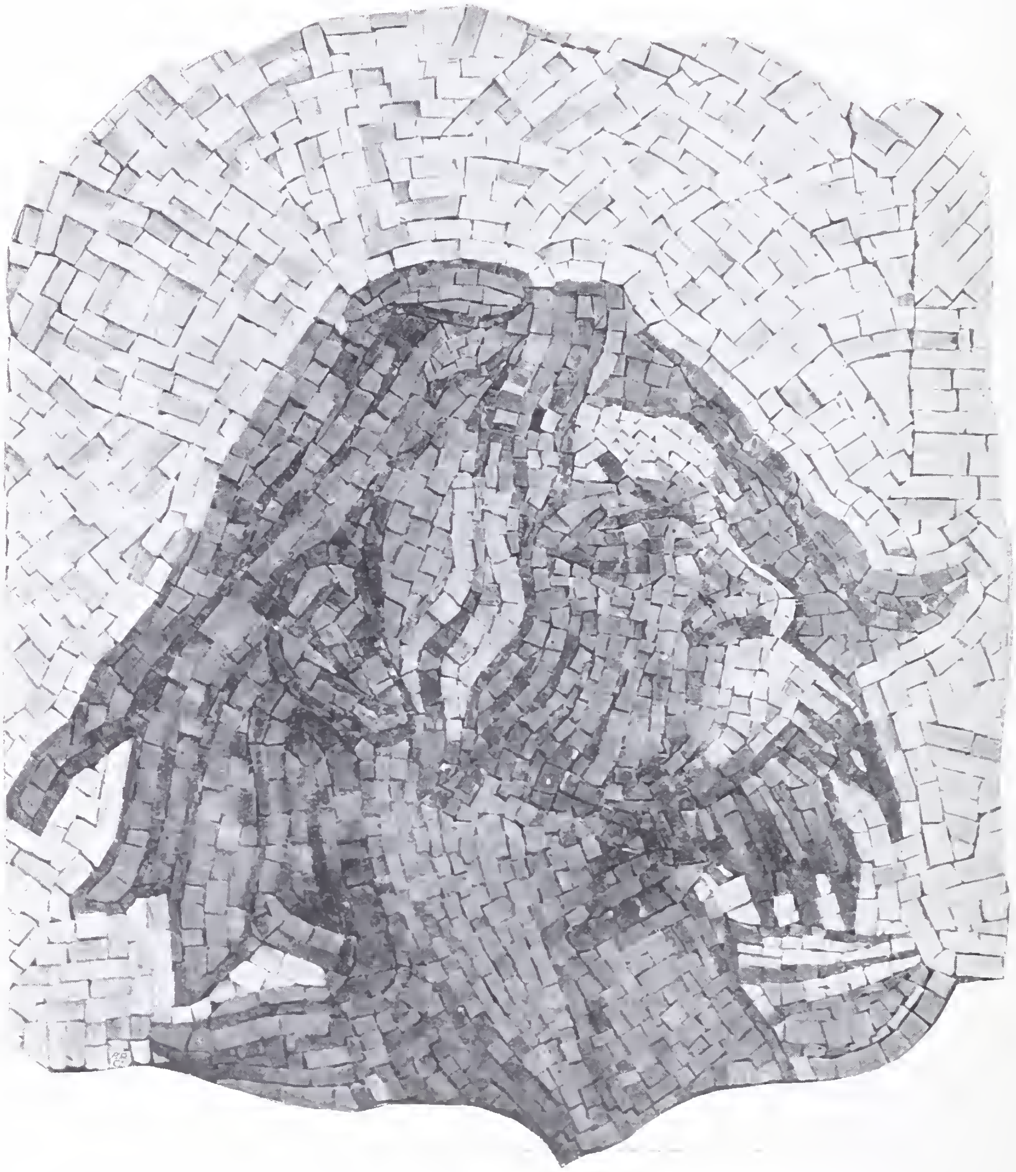

Fig. 4.—Mosaic executed in the Studio at Neuchâtel, in which the ancient Byzantine system is adopted of pieces hammer-cut only, the effect being sought from a distance. Designed by Mr. Paul Robert.

As to gold grounds, quality is of all importance. Modern gold, nearly all I have seen in use, is much like yellow-looking glass, hard and bright, cut into squares, ground to fit maybe, and giving a broad piece of mirror flashing out light and killing everything it is put with. An advance is made when the tesseræ are put at varying angles, but even then we have multitudinous small mirrors flashing out their tiny rays into space, which gives, as Mr. Crane remarks, "glitter and garishness." But the gold of old mosaics, as at Apollinare Nuovo, Ravenna, even on a flat wall, is soft and sympathetic, with a roughish surface; it does not flash and does not kill, but gives a soft brilliancy admirably blending with the figures on it. The design of figure work and ornament when on gold is bright and sharply varied, so as not to look a heavy mass on the gold.

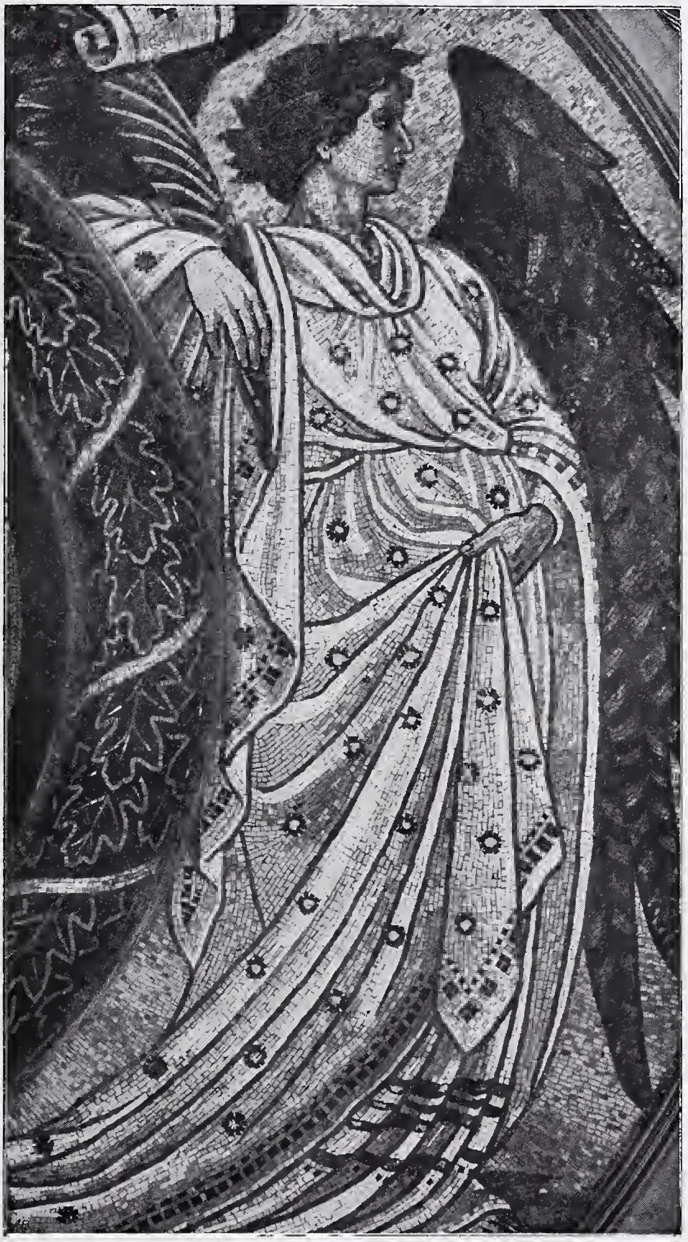

Fig. 5.—Example of a Modern Figure executed on the principles of ancient Byzantine work, but not slavishly copied. For distant effect. Designed and executed by Clement Heaton.

It is evident that such kind of gold ground may be used where the common gold of modern use would be garish and destructive. In one case where I was, against my will, obliged to use a solid gold ground out of doors, I was able to get it nearly right—at least, inoffensive—by working on the lines of the old traditions, which, while known, it appears, to modern mosaic-workers in Italy, are left unused.

As to tints used. Romanesque painted decoration is simplicity itself. A red, a white, a green, a black, a grey, a yellow, and rarely a blue are what was habitually used. And with such a palette they gave charm to interiors in a masterly way. So also mosaic-workers had few colours—gold, white, black, two blues of different intensities, violet, green, greenish-yellow, dark red and orange-red, and a few broken tints. Rose was in marble, and the white or grey also sometimes. With this narrow *répertoire* they achieved their success, working on well-known principles, as did the decorators in pigments. Therefore many tints are not necessary, and great richness can well be obtained in great simplicity—as we find true also in stained glass.

Yet there is a point where we may go beyond the ancients with advantage, and that is in the use of harmonised greys. The ancients had little grey, and at Ravenna were reduced to use white and rose marble mixed with the glass. But we to-day have oxides—gold, nickel, and chromium—which it would be folly to ignore; and which, with the purple from manganese, give a magnificent series of pinks, violets, greys, grey-blues, greenish-yellows, and yellow, making a palette perfect for our northern climes.

Modern oil-painting has shown us the beauty of grey and broken tints in Nature. We shall, I think, in mosaic cultivate pearly greys in decoration which would be too delicate to resist dirt in other mediums, thus appealing to the colour sense developed in modern times. But to do this the artist must make his glass, as I found it necessary to do, or at least control its making closely, as some harmonies are difficult to get right in value. When one has the organisation to do this, how the rebellious nature of the material softens away!

With these resources as to colour I was astonished to find the great scope existing *within the definite limits of the early technique.* Painters get beautiful quality with distinct touches of bright colour; and the same principle is good in glass, and simple technique suffices. The future holds store of glorious possibility, and one can realise modern ideas while remaining faithful to early principles and procedure.

As to fixing, I cannot but think that one cannot be too hard and fast in laying down a law as to how it is operated. When uniformity is desired and quality is not sought, it is not surprising if one gets uniformity and not quality. The great thing is to seek for beauty and equality, and get it how one best can. It is to be remembered, also, that in fixing we have to think of the wear of the elements for many years; and it is questionable whether it is wise to ignore the knowledge possessed by specialists in the chemistry of cements and the experience of builders and architects.

But one has the impression that one is at the threshold of an open door. The ancient masters had centuries of tradition to go upon, and were in touch with that fountain of colour-lore, the East. We have much to learn, and shall learn it in working; and slowly the tradition must be built up again by the study of principles and by exchange of thought—especially all that concerns the action of light and distance on tints.

To conclude: as to quantity, everyone seems to agree that mosaics should be used in large quantity and that small panels do not look well. Yet this, however true, condemns many and many a reredos which it was the fashion to consider "the right thing to do" not long ago. But I think Mr. Bell goes too far in thinking it cannot be allied with marble or stone. It is well allied in Ravenna and Venice; only there it is used, as also at St. Sophia, associated with bands of carved or incised work, with lacy surfaces full of black and white in between. This leads the eye from one surface to the other without too abrupt a transition; and this principle, which the architect has in his power to observe rather than the mosaicist, is the key to success. Gothic carving does not "carry" enough to stand against mosaics. If mosaics are brought into use the handling of the adjacent carving will require modification on the lines of Byzantine principles.

TRADITION IN ARCHITECTURE: ITS FUNCTION AND VALUE.

By Alexander Nisbet Paterson, M.A. [*A.*].

Read before the Royal Institute of British Architects, Monday, 21st April 1902.

IN venturing, with all diffidence, to address the Royal Institute of British Architects on the subject of the Place and Value of Tradition in Architecture, in urging, as I propose to do, its vital importance as an element in all art of permanence and value, I may be accused of preaching to the converted, of, in familiar phrase, "carrying coals to Newcastle." For it is of the essence of a body such as this, of ancient place and influence, be it college, academy, or institute, to hold fast to the inheritance and teaching of former times, and even, as the past history of such institutions proves, to give these undue prominence. It will, however, be part of my endeavour to guard against this last attitude, while at the same time seeking to carry you with me in regard to the general position indicated, in the hope mainly that the far-reaching voice of the Institute—not only within our own shores but throughout the Britains beyond the seas—may thus be expressed and asserted to restrain, to counteract, to check the too easily learned, and, as I venture to think, the pernicious teachings of the so-called "new art" movement, with certain cognate developments in English architecture. It is a foolish title, of course, "the new art," and reminds one of the criticism expressed regarding a certain learned treatise that it was "both original and wise, only what of it was original was not wise, while what was wise was not original"; still, this absurd combination of words, by popular use, has come to mean something, and may therefore be allowed to pass for the present.

The particular phase alluded to I hope to take up in more detail later on; meanwhile, and before proceeding to deal with the subject-matter of my Paper, I should wish to define, as clearly as may be, the meaning of the term "Tradition," to express in few words its relation to our art, and to disentangle it from another term, another idea with which it is apt to be confounded, and which may be best expressed by the name of

Archæology. "Tradition," in the dictionary, is stated to mean "the transmission of events, doctrines, rites, &c., from father to son through successive generations, by word of mouth"; and again in the plural, "things or deeds preserved only in the memories of successive generations, and not committed to writing." Neither of these explanations altogether conveys the meaning I would—rightly or wrongly—give to the word, although the latter is somewhat near it. Yet no other word serves better to express the idea, which is briefly: the influence, both conscious and unconscious, upon us as workers in art to-day, of the methods of seeing and doing on the part of the many generations of workers who have preceded us, and who, when in life, were engaged in like problems to these which now occupy us. Tradition in this sense, as regards architecture, is two-fold, though each part is closely and indissolubly linked to the other—Tradition in Construction; Tradition in Design. As an example of the former, we have the inherited knowledge regarding the proper combination of the various materials to resist certain stresses, of the employment and necessary proportions of certain constructional forms, as the lintel or the arch; of the latter, the use of typical mouldings or groups of mouldings, the so-called "laws"—that is, the crystallisation of experience—concerning proportions and their relation each to each; of the two in combination, the intelligent and sympathetic treatment of the varying materials, marble, stone, wood, cast and wrought metals, so as to give each a special character in accordance with its inherent qualities. "But," you may say, "your 'tradition' is then but another name for *style*, and therefore unnecessarily confusing the issues." Not so, I think. Tradition does indeed include style, or rather the styles; is mainly compounded of them; but it is larger than they. Styles have their day and pass. Tradition endures; at one period weaker, at another stronger, now more conscious, now more unconscious in its influence, it remains, and must continue to do so as long as the workers of each succeeding generation learn their work from those of the preceding one, be it in workshop, studio, college, or office. Tradition can be broken only, and that at most but temporarily, when the young say, "Our fathers were fools; we know a better way than theirs," and behold the new way they have discovered is but that of their grandfathers or of other ancestors more remote, and generally misapplied.

While, on the one hand, therefore, Tradition is not to be confused with style, so, on the other, it must be clearly differentiated from archæology, "the science which treats of ancient things or antiquities," as the dictionary has it. For, with regard to this last, we must note that the archæologist's interest in an object is aroused *essentially* because of its age, and not, in any sense, because of its influence upon work of a similar nature to-day. His attitude, to be precise, is that of the scientist, not the artist, much less the art-worker.

Many old things have an intrinsic beauty of form and colour. Most have an added charm, the result of the softening and enriching effects of time, but these are, so to speak, by-products. A man may be thoroughly versed in the various schools of painting or architecture, may be able to affix its precise date and place of origin to an early Dutch or Italian picture, a scarab, or Runic cross, may even dilate on their interest, and, in a sense, their beauty, and yet have no real appreciation of composition, outline, or colour. To the archæologist, in fact, an object is not only interesting because it is old—an entirely reasonable relationship—but it is beautiful because it is old, which strictly speaking is nonsense, inasmuch as beauty is produced by one or other, or a combination of all the attributes just mentioned, composition, outline, colour, interfused with the genius of art, and age in itself can produce none of these. It is, of course, possible to be both an archæologist and an artist—the latter term being employed in its widest sense—one may even be a better artist because of one's archæological knowledge, but the combination is not essential, or even, in actual fact, common, and it is absurd, therefore, although too commonly the case, for the learned in such subjects to pose as authorities on art matters, or that their opinion should, on account of such knowledge, carry weight.

We have been considering tradition and archæology in terms of art, and it may be well, therefore, to endeavour to define this last also, to assign to it its special characteristics. Art, then, or fine art, as it would perhaps be more correct to designate it, we may take to be, in its widest sense, the creation of the beautiful: the production, under the combined influence of thought and emotion, of an object which in that particular form or combination of forms has not previously existed, out of materials in themselves not beautiful, be they sounds, words, pigments, clay or marble, brick, stone or wood, which object, when so produced, appeals primarily to the sense of taste and to the imagination. Further, as architecture is the phase of art which more particularly concerns us, and that not as a theoretical study, but as an actual occupation, we may more closely define it, and at the same time more clearly show its relationship to the other two conceptions, by saying that art is, in this instance, the living creative interest which devotes itself to the design and erection of buildings which will satisfy the requirements, and be in accord with the sentiments, of the present time; that the art in these buildings is a necessary and natural outcome and development of similar work in the past, of which the technique is learned consciously and unconsciously through tradition, and that archæology (with history in its train) is, at best, a science by means of which we may arrive at more precise knowledge regarding certain aspects of such work.

We have now defined our terms and indicated, in outline, their mutual relationship. Before dealing at greater length with the subject which more especially concerns us—the place of tradition in the study of art—I should like to clear away any confusion which may still be possible as to what I mean by the traditional, what by the archæological standpoint, to fence off the latter from the former. For though these interests are each, of course, entirely justifiable and praiseworthy as has been already indicated, in their essence they are diverse and even antagonistic, for the one is the handmaid of art, the other of science, and unless this division be clearly understood and guarded against, while the one will make for good, the other will certainly make for evil. While admitting for the moment—a point which will be elaborated later—that architecture, of all the arts, is that which should be most guided by tradition, while claiming that under such guidance it does its best, its most living work, it is, I maintain, altogether otherwise—it is in the highest degree hurtful to such life—when the archæological spirit is permitted to predominate. Then it is that the purely scientific knowledge that a feature, a motive is old, without any reasoned appreciation of its beauty or fitness to modern needs, is sufficient warrant that it should be reproduced. Hence the gargoyles which never spouted, which would not, in fact, be allowed to do so by our modern Building Acts, the battlements which shelter from no assaults, because our protection is of the law and not by force of arms, the ponderous buttresses with no thrust to counteract, the temple porticos which shelter none from sun or rain, because they are shut off from the passer-by by iron railings, the sham gun-ports and the turrets with "no insides." All this is but science of a kind, dryasdust knowledge out of place, hurting and hindering the free development of an art which, if it is to be of any use, must be living, making frank use of the constructional facilities, and reflecting the needs, the sentiments, the aspirations of the time. The archæological spirit has shown itself from time to time in all the arts; in painting, for example, there were the various eclectic schools, as that of Caracci and his followers in Bologna during the later sixteenth century, and the pre-Raphaelite movement in our own day, but especially in architecture in the various revivals. These all, in a righteous spirit of revolt against or complete denial of any existence to the art of their day, set themselves more or less vainly (as the ultimate results showed) to turn back the hands of the clock, and instead of the spirit of generally unconscious receptivity and the single desire for beauty which should characterise the artist mind, were fain to reproduce with toilsome study and research, the work, and not infrequently the very tricks and failings, of an alien race or long-passed-away period. Actual, textual, historical accuracy to a particular phase of old work became the one method of salvation, research took the place of creative knowledge, and the tenets of history became confounded with the teachings of art. Now, if the logic of this position be inquired into closely it must surely be found to be an impossible one to hold. It cannot matter a rushlight, from the point of view of our actual work to-day, whether this bishop or that founded a particular aisle, whether a chapel was really fourteenth-century work, or was carried out a century later in the preceding style so as to be in harmony with its surroundings. That we should know with certainty if the founder's tomb is in existence or not, or even that we should be able to say that a moulding is early, late, or transitional, will not influence one iota our powers of plan and design; all such knowledge is extremely interesting and useful, no doubt, in its own sphere, but its true importance to us is, and is only, that in gaining exactness of knowledge as to such details as these, we are bound to increase our knowledge of the work itself, of the constructional difficulties and the means by which they were overcome and rendered unexpected points of interest, of the infinite variety, the enveloping harmony and the crowning beauty of the building, which through years, and maybe centuries, of growth ultimately reached the completed, the organic form in which we see it. Only—let such enthusiasm be kept under restraint when pencil and paper are taken up in facing the problems of daily practice. Do not let us take it for granted that because a feature looks well in an old building that therefore it will be equally effective if tacked on to a new front. "Old wine in new bottles" produces, as we know from excellent authority, a disastrous result, and if, in architecture, when a like essay is made, it is only the effect of the building that is destroyed as a genuine work of art, and not the building itself that is "burst," it is the more to be regretted. According to the same authority "It is the letter which killeth, the spirit which giveth life." In the spirit of the old work we admire, and which we should with all humility seek after, there are no qualities more pre-eminent than directness of aim and honesty of purpose.

Now, passing from the relationship as between archæology and tradition to that of tradition with our art, it is just these two qualities of directness and honesty that, if we go deep enough into the consideration of the matter, we shall find to be most surely preserved by working after the methods of our more immediate predecessors. All art is subject to convention, to restriction; architecture, of all the fine arts, is most so subjected, and that under two main influences, the one immovable, unchangeable, affecting alike the work of, say, Praxiteles and Norman Shaw, the limitation of that *construction*, through which it must express itself, and which in its turn is subject to the all-pervading law of gravity; the other, as constantly changing, constantly but gradually from year to year, even from day to day, the physical, mental, and spiritual requirements of those for whose use buildings are designed, together with the effective range of constructional resources at our disposal wherewith to satisfy these requirements. The gradual gathering-up, the accumulation of the tradition of former ages has provided us, as before said, with certain methods, certain formulæ of construction—the lintel and the arch, the beam, the truss, and the vault, each in harmony with, and yet in a sense overcoming, the effects of the law of gravity, and each having a certain artistic expression of its own. From these we cannot escape; it is not possible to conceive of any other means of covering in space (which in its essence is architecture). On the other hand, it is only from our immediate predecessors, and even contemporaries, that we can gather to what extent the immediate requirements of the day must guide us in our use of these formulæ, and at the same time what constructional resources are available for the purpose of extending their scope. Take again the question of mouldings, which, more than anything else, are the technique of architecture. The leading contours of these, and the principles regulating their use, not at one arbitrary period only, but through all the succeeding phases of architecture up to our own day, are in the gift, so to speak, of tradition. So also with what the cumulated experience of a long line of great architects has proved to be right and beautiful in proportion, that a column in stone is satisfying to the eye when its height is eight to ten times its diameter, a window opening when it is in the proportion of two squares, are facts as certain—(with many other so-called "laws" of like nature) if as difficult—to explain, as that in music the third, fifth, and octave are in harmony with the dominant. These and such as these are the traditional data with which architectural design is produced, as with the note of the scale a musical composition; and it is only when novel materials intervene, or in a particular situation—as it were, in a musical "progression"—that variations, even to the extent of discords, are admissible and, in their place, admirable.

Only it is well to be sure of the harmonies before introducing the discords. Only the master can successfully cope with the bizarre, the unexpected. Yet in that particular class of design already referred to in passing, it is the bizarre which reigns supreme, and the younger the designer the more scornfully is the whole body of traditional training set at naught.

It is often an aid to clearness of understanding regarding a particular situation if the attendant circumstances can be viewed from a different standpoint, if, as in the present case, the elements of one art can be substituted for those of another when setting forth the argument. Take, then, the case of a student of music, imagine him to publish a work which throughout should set at defiance the established harmonies, the laws, and limitations of the theory of counterpoint: would he not in so doing but offer himself as a laughing-stock, as one who, in the conceit born of ignorance, would thrust himself on public notice before learning the alphabet of his art? Is it otherwise in architecture, when the canons of the art are set at naught by the student: and the word "student" I would employ in its widest sense in that connection? Which of us would claim to have passed beyond the stage of studentship in an art which, more than any other, justifies the well-worn adage, "Ars longa, vita brevis"? "The assay so hard, the art so long to learn, so great the toil, so sweet the recompense."

To sum up a little at this point: you will have gathered, I trust, that while, according to my view of the matter, the influence of archæology, where its presence and meaning are not fully recognised, must be considered dangerous and generally hurtful, that of tradition makes only for righteousness. There may indeed be a bondage of tradition as of archæology, but this is impossible when (and this I take to be an essential and vital principle in the truly traditional attitude) it is accepted in its widest form, when the tradition of yesterday and even of to-day is regarded as of not less but more importance than that of the century of Wren, of the Gothic master builders, or of the Greek and Roman classics, when the tradition of steel girder, plate-glass, and electric light is accepted along with that of stone vault and flying buttress. Then only and truly do we reasonably accept and make use of such types as have been handed down to us, happy to preserve the continuity of our art by employing such as are fittest and best able to express the modern requirements which we are seeking to satisfy, while we reject those that have no longer any meaning, or which it is not possible to mould and adapt to present uses; and thus only can be preserved the nobility, directness, and singleness of aim which characterise the best of the old work.

Lastly, with regard to the present tendencies in those matters, which I venture to regard as what a Scottish minister would term the "application" of this address, the position of architecture in this country to-day, as following upon and largely the result of the remarkable and interesting—if somewhat distracting—state of that art during the century which has just passed away. For nearly a hundred years England has followed a path all her own in such matters, with results which can scarcely be called successful. The path, in fact, has been such a one as leads through a maze: we are like to end when we emerge—if we are yet to emerge at all—very precisely where we entered. Meanwhile the neighbouring nations on the Continent of Europe have been quietly pursuing and developing the traditions of earlier times in the light of modern opportunities and requirements, guided therein by a continuous and systematic study of architecture, with the result that, as regards civil architecture in particular—that branch of the art which must bulk most largely in modern times—they are, I venture to assert, far ahead of us in achievement to-day. When the opportunity offers, France can produce the Grand and the Petit Palais des Beaux-Arts, or the new railway station by the banks of the Seine, worthy to rank as examples of art with the earlier monuments in their neighbourhood, the Hôtel des Invalides and the Louvre.

In presuming to institute comparisons—as I must do to support my argument—between the buildings just referred to and those of similar magnitude and importance produced in recent times in this country, I am, I am aware, entering on delicate ground when addressing a body which includes among its active members those who have had the opportunity of carrying out national and municipal undertakings on a scale such as we in Scotland and the provinces can only sigh for and criticise when erected. Yet you will perhaps bear with and even agree to the assertion that of modern English examples of civil architecture of the first rank few indeed, if any, can stand comparison with similar work in Paris and other European centres, in such essentials as nobility of conception, sureness and largeness of grasp, and ultimate achievement in whole and in detail—any and all, in fact, of the attributes which constitute architecture a great art. Yet the Banqueting Hall of Whitehall Palace, as far as it went, is as fine as the Louvre (and as characteristically national in sentiment); St. Paul's Cathedral finer than the Pantheon; the work of Chambers and the brothers Adam, equal, if not superior, to contemporary French work, while to-day the personal ability and enthusiasm of our own architects are not less than those of their *confrères* across the Channel. The moral surely is obvious. It is not the nation or the men that are at fault, but the point of view, the methods, and, above all, the lack of continuous tradition; while, if the doctrines of the "modern school" are to prevail among our younger men, the outlook for the future is still worse.

It is scarcely necessary in a gathering such as this to trace, in detail, the architectural history of England during the nineteenth century; a brief glance at it will suffice to render clear the argument. In the early part of the century, tradition, in this country as throughout Europe, had been continuous for more than two hundred years, when suddenly within our shores, like an epidemic or series of epidemics, the period of Revivals set in. The traditions developed from Elizabethan and Jacobean times (of which the source must be traced through Italy to Rome and Greece), and, continued by Inigo Jones, Wren, Chambers, and Adam, were in a day, as it would seem now, thrust on one side as insufficient, architecture became confounded with archæology, and the earlier developments of art were ransacked for new inspiration. The Greek revival (the first of the race), in the beginning but the desire to purify—in the light of more correct knowledge—the lines of modern classic art, became a dogmatism when opposed in the "Battle of the Styles" by the Gothic revival which followed it. Under the sway of the latter archæology became frankly the ruling motive in architectural art. To be mediæval was to be correct, to be correct was to be beautiful. The misconception adverted to in the earlier part of the Paper, that an object was beautiful *because* it was old—the term "old" being, however, strictly limited to a particular period—became a shibboleth. We are far enough removed, alike in time and sentiment, from the battlefield, to conclude with all impartiality that the result, the temporary result at least, was disastrous for English architecture, and that despite the artistic power of the leaders on both sides. No one would contend for a moment that great and noble works were not produced; the Greek revival gave us Cockerell and Greek Thomson; the Gothic, Burges and Butterfield; but these and some few others were men who were greater than their creeds. Nor would I deny that in reviving and extending the knowledge of phases of architecture which had been before their time unknown or ignorantly decried, they added to and corrected the stores of tradition, leaving to us who have followed them a wider heritage of knowledge and appreciation. Yet inasmuch as the attempt to trammel and confine modern requirements within the strait limits of an earlier art was bound to meet with failure, and that meanwhile the steady development of the natural expression of these requirements in stone, and brick, and iron had been interrupted, so that when it passed, as it was bound to pass, the public and the architects alike were left in a state of confusion, the influence of these revivals must be admitted now to have been, as regards the main issues, for evil rather than for good.

The Queen Anne revival, which followed, was more in the nature of a groping after compromise between the earlier combatants than a positive creed like theirs; at least, under its influence a larger view began to prevail. Meanwhile the firm grasp on principles of design had been loosened, and liberty, except when directed by principle, readily degenerates into license, so that for a time, and that within the last decades, yet another phase declared itself, and Queen Anne became merged in the period of sketch-book architecture. The examples of old work (for still to be beautiful an object must be old) in Italy, Holland, Spain, and other countries more remote, were one by one laid under contribution, so that future students of the architecture of the later nineteenth century in this country will almost be able to settle the period of a particular building by consulting the dates on the title-pages of the works issued by Mr. Batsford.

But within the last few years the long-troubled waters have, it would seem, begun to settle, not to stagnation, but to a steady flow within their natural channel. The Value of Tradition, modern as well as ancient, has shown a tendency to reassert itself, the art of architecture, along with the crafts which nourish it, has been revivified, the true principles of design are being taught with organised effort in educational centres, and but for this curious development of very recent times, which threatens to turn it again from its true course, there is good hope that English architecture during the twentieth century will again assert itself in its natural and national characteristics of dignity and refinement.

Of the doctrines of this "new art" or "modern school" there are various manifestations, and those are showing themselves, not only in this country, but in other European centres of art. Its gospel is difficult to grasp by the plain man, if only because its coherent expositors are few, its literary efforts consisting mainly, so far as can be discovered, of expressions of mutual admiration of each other's work by the confraternity in a well-known art monthly journal, or, where that fails, a periodic self-advertisement by one of them in the same publication, in the form of a description and cordial appreciation of a certain house or houses by a certain architect, written, illustrated, and signed by the architect himself. To that remarkable compilation issued from the office of the *Studio*, and comprehensively and complacently entitled "Modern British Domestic Architecture and Decoration" (though from its pages the works of very nearly all our most celebrated domestic architects are excluded), Mr. Edward S. Prior has a reasoned article by way of foreword under the heading, "House-building in the Twentieth Century." With many of his arguments I am in entire sympathy; but, to commence with, he seeks to limit the scope of English architecture to house-building, which is impossible, and which, if it were possible, would be deplorable for the country's art, and, further, makes confusion between archæology and the styles, so that almost his last word is the hope that architects may "cease to be purveyors of style." This, indeed, one gathers to be the one prevailing tenet of the school, that the "copying of styles" is to be avoided as a deadly sin. Why? To this simple question I should like much to receive an intelligent answer. It is, I venture to assert, the first time in the history of architecture that a like position has been taken up, for it is surely an admitted fact, which was well referred to by Sir Lawrence Alma-Tadema on a recent occasion in these rooms, that, from Assyria and Egypt onwards, the architects of Greece and of Rome, of the Romanesque, Mediæval, and Renaissance times, had no other idea in their minds but, in working out constructionally their fulfilment of contemporary requirements, to copy the styles which had gone before, as they knew them. They may not, in all cases, have called it copying the style, but, consciously or unconsciously, and more generally the former, that was what they were intent on doing. Now, I would again like to ask a question. Did the work thus produced suffer, in regard to sympathy with the needs of the times, to nobility, to beauty, even to originality thereby? I trow not.

When we come to analyse the characteristics of the new movement, it is to this taboo of "the styles" that they can all be traced. The refusal to employ the formulæ thus provided has its necessary result in the prevailing baldness, the absolute lack of variety and movement in this class of work, so that the same motive which has provided a cottage-gate must serve for the fitment in a drawing-room. When all the resources of the modern orchestra, so to speak, are contemptuously ignored, and Pan's pipe—or its modern equivalent, the penny whistle—is held to be the only instrument worthy to be used by an artist, is it to be wondered at that the melody is monotonous and thin? Consider, again, the lack of mouldings: these are the sign manual of the styles and must be dispensed with, though the door to the coal-cellar and that to the drawing-room be indistinguishable except for their hinges, a single exception, however, being made to this exclusion in favour of the knife-edged cavetto or shelf-moulding, which has to serve for all occasions and in all materials irrespective of its meaning or appropriateness. The styles, especially those of our immediate predecessors of the last few centuries, are essentially the product of civilisation, the architecture of modern times is, perforce, mainly that of the city; but as recent precedents must be ignored, and architecture cannot escape from the traditional standpoint, inspiration must be sought in those Arcadian times before city life existed, with a resultant sham rusticity, an assumed simplicity of living and thinking, entirely at variance with the thoughts and habits of those whose requirements the buildings are supposed to supply, and even, if due investigation were made, with those of the designers themselves.

Such was the train of thought which forced itself upon me recently when visiting at a house of this character. Such latter-day appliances as electric bells, and even the more ancient if convenient utensils, knives and forks, seemed out of place. Modern evening dress obtruded itself as a hopeless anachronism; the costume of Eden, garments of skin and leaves, or at the most a smock frock, one felt would alone be sufficiently in harmony with the surroundings. It would seem, in fact, that the designer (if, in ignorance, the word is not misapplied), in his revolt against the dominance of archæology and the styles, had unconsciously, no doubt, but "out-Heroded Herod," and in the search for inspiration, turned his eyes far beyond both Gothic and Classic times to the Prehistoric period pictured in *Punch*.

One more characteristic may be referred to, still the result of the same tendency; the attempt to return to the conditions of working of those earlier times when the individual worker was—or is now supposed to have been—his own master in the particular portion of the general work to which he devoted himself. The said individual worker is, of course, under present-day conditions, unable to play the part thus allotted to him, but if he is employed not by a "firm," but by a "guild," all is right, and the utmost latitude is at once allowed to the producer in all matters of furniture and ornament, with a consequent loss of homogeneity and restfulness in the general scheme. In the absence of the "guild," the half-trained amateur —too full of art enthusiasm to consent to the drudgery necessary to acquire technical skill in execution—will do instead, and, being an artist, this must be allowed absolute independence. Cast work in metals, carving in wood and stone, anything that may be turned in the lathe or produced by the machine being modern or savouring of the styles must be set aside, and the type of building in question, when at its worst, has its general bareness relieved by an ill-considered patch-work of *repoussé* copper or mosaic panels, hammered iron grates and hinges, and stencilled painting. In all this there is, combined no doubt with a real enthusiasm, as I cannot but think, Sir, a vast amount of affectation, and art which is ruled by affectation is, by the very fact, deprived at once of any influence for good or possibility of progress.

In its origin, the movement may be healthy enough, being but the revolt, carried too far, indeed, against the hurtful dominance of archæology in art, and, were it not for the youthful enthusiasm and dogmatism which inspire it, and more especially the ease with which its tricks, without its merits, can be learned, rendering its presence, already too widely disseminated in our new schools of architecture (which have themselves no traditions of training with which to combat it), a danger to the future, it might be allowed to pursue its course in undisturbed self-complacency.

Professor Beresford Pite, in his lecture here last session, on the "Tendencies of the Modern School of Architecture," said, in reference to this new development, "That there is present, under the seeming voicelessness of the new sound, an intelligence and a purpose of expression, sincere, earnest, and useful, I am as convinced as we all now are of the single-hearted zeal of the Gothic Revivalists," an opinion with which I can entirely agree; and yet, holding the belief already expressed, that the Gothic along with the other revivals, except for the knowledge they brought us, were in the main hurtful, be the more convinced that the new phase will be so equally with its predecessors, and without their compensating advantages. It is, in fact, but another attempt to put back the hands of the clock, to imagine and to insist that our fellow mortals of to-day, and we who are here to serve them, are other than they and we are or can be; equally fallacious, equally misleading with former endeavours of the same kind, but more tempting, and more pernicious than they, in that it offers an art which may be acquired without knowledge, and consequently without drudgery.

No; a rough-cast wall, plus a mosaic panel and a *repoussé* copper name-plate, is not the whole art of architecture. In that I feel certain all will agree with me. If such is to be the ruling motive of the art in this country, the watchword of the new century, then is our last state worse than the first. Encourage the crafts by all means, give the craftsmen every liberty within their own spheres—the architect will be aided and stimulated by their co-operation and help; but his must be the guiding and controlling mind, and his work may, and often must be independent of their aid. And let it not be thought that it is by working only on such lines as we have just been touching upon, as its devotees would have us believe, that one can be earnest, or even original. I am verily inclined to believe at times that the love of originality for its own sake is the root of all evil in the pursuit of the fine arts. For indeed that, desirable quality though it be, is just one that will not come by "taking thought" for it, and if it be sought after this fashion the result is but a superficial affectation which is at the opposite pole from those solid and enduring qualities which are of ultimate value in the arts. But if the architect, instead of seeking originality, and endeavouring to take it by force of devious paths and strange revivals, is content to follow the quiet lines of tradition, holding at the same time true to himself and the requirements and opportunities of his day, it will be found to have sought him. Future generations will see in his works the special beauties and qualities of his period just as we to-day discover them in those of our predecessors. Then, too, it will be seen that the archaic revival of the "new school" which characterised the opening years of the twentieth century was, like its predecessors of similar origin, but a temporary check in the path of progress. Progress in our art, individual, national, world-wide, we all—of whatever school—desire. Progress, as history teaches, has been ever best secured by continuity, and continuity is, after all, but another name for tradition, which thus, in a last word, establishes its place and value in this our most inspiring, most noble, most ancient, and, withal, most traditional art of architecture.

DISCUSSION OF MR. PATERSON'S PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. G. H. FELLOWES PRYNNE [*F.*], in proposing a vote of thanks to Mr. Paterson, said that the subject treated was of extreme interest, and he thought that most present would in the main agree with Mr. Paterson's statements. With regard to the study of the past, he thoroughly agreed with Mr. Paterson, but perhaps in his great wish to uphold the following of tradition he had rather gone on the lines of a good many others who for the past twenty years, in reading papers before the Institute and the Architectural Association, had been too ready to abuse the work of the architects who had gone before them in the century. It was a matter of evolution to a certain extent. We had been passing through an almost revolutionary period in architecture during the nineteenth century: at the same time an immense amount of good had resulted. A vast amount of good had come out of the deep study of early Classic architecture by such men as Cockerell, and he would say the same with regard to Gothic architecture. Doubtless many went to foolish extremes, but in the early phase of the revival of each style the idea of simple copyism was not unnatural; it was a sort of revolt from that hard and fast line which was set immediately before. But the ultimate outcome had been good. He did not uphold the idea that the copying in itself had been good, but the deep study given to the matter both by Classic and Gothic men in the last century had been of great service to the students of the present day. Again, some people seemed to think that because their education had been in a certain groove—either Classic or Gothic, as the case might be—therefore they must abuse those brought up in a school different from their own. That was noticeable in the Gothic phase, but it was still more noticeable at the present time. One heard the Gothic style spoken of as a thing that was past and dead, and that there was no such thing as Gothic; but it was folly to look at art in that one-sided and narrow way. One must look at it in a much broader way. One must try to see everything that is really beautiful in the Classic and all other styles, and make that the foundation of future design. We found very often in the present day that a so-called eclecticism was neither more nor less than an excuse for absolute ignorance of the art that a man tried to follow. He was not referring to such men as the late John Sedding. In him they had a man who tried to feel for deeper things. They might not agree with everything that he did, but all would agree that he was an artist, seeing the beauty of Classic architecture, seeing the true spirit in Gothic architecture, and trying to fuse the whole together and blend them into one harmonious design. But such was not the case with many of our men and many of our writers at present. Even in the controversy with regard to the Liverpool Cathedral some very foolish things were said with regard to the styles. One did not want for a moment to confine it to Gothic, Classic, or anything else; but for one school to say that it should be a Classic design and that Gothic was dead, or for the other school to say that Classic was dead and that the Gothic should be adopted, was utterly absurd. The tendency in the profession to abuse one another's work was very unfortunate. He thought that if they looked at what was best in the work of their fellows, and tried to see the good points rather than the bad, they would find their art improving, and the architecture of the future would be imbued with the spirit of true art.

Mr. W. G. WILSON [*A.*], in seconding the vote of thanks, said that Mr. Paterson came from Glasgow, and therefore spoke rather feelingly. The architects of Glasgow were a singularly capable lot of men, but unfortunately they were either followers of tradition or they were men who would not be controlled in any way, either in their art or in their religion! So that he was afraid that in many ways their liberty had degenerated into license. He was in Glasgow not long ago, and was staggered to see the extraordinary emanations which had come from the brains of some of the more prominent Glasgow architects. So he thought Mr. Paterson spoke rather feelingly, although his practice was slightly in opposition to the views he expressed in his paper, because the excellent work Mr. Paterson had done bore very close traces of the study of a style somewhat unsuitable to modern domestic requirements. Mr. Fellowes Prynne had got rather away from the point. He spoke of the opposition which Gothic men manifested towards Classicists, and the other way about; but was not the true art to-day eclectic art pure and simple? In going through a garden to make a bouquet, one did not pluck all the roses nor all the primroses, but one gathered flowers of different kinds, and the result was beautiful. Glasgow man as he was, he was bound to say that the most successful men in England seemed to be imbued with that sense of restraint which his countrymen somewhat lacked. The most successful architecture of to-day was purely eclectic—architecture which it would be hard to criticise as Classic architecture and equally hard to criticise as Gothic architecture. The men had learned in both schools, and the result in many cases was eminently satisfactory. With all respect to their French and other Continental neighbours, he ventured to say that the English work of to-day showed a greater amount of individuality and method, and seemed to meet the conditions of the times in a more satisfactory way than the work in France.

Mr. H. T. HARE [*F.*] said that the Paper was most excellent and interesting, and he felt very strongly that it was high time such a Paper should be read in their rooms. He had listened during the last two or three years to a good many papers dealing with the other point of view, more or less advancing the idea that architects should attempt to be original; and therefore he thought that any paper which protested against the conscious effort after originality must be of very great value. The idea seemed to be prevalent that if one studied and worked upon traditional lines, it must of necessity kill all originality. That was not the case by any means. If a man possessed ability and had originality in him it would come out, although he might work in Gothic, or Classic, or Renaissance, or any other style. It did not matter what it was: they would see the originality there, although the work might be absolutely correct in all its lines. Therefore it was not necessary that one should be always striving after originality. One of the great evils of what was called the "New Art" appeared to him to lie in the fact that the exponents of it apparently divested themselves of everything that had gone before; they stripped themselves absolutely naked and stood without anything on at all. Why a man who could afford to build a good middle-class house should be compelled to sit in a room without any mouldings, ornament, or any thing pleasant to the eye, a room got up exactly in the same style as a farmhouse or a labourer's cottage, he could not conceive. He knew a very large house in London which cost many thousands of pounds, belonging to a man of high social status, yet in the entrance hall there was a large fireplace with a gridiron hanging in it—the idea being, he supposed, that he could cook a herring himself when he came home at night! That was the sort of affectation they should protest against in the strongest way possible. Although if tradition be followed and studied it might lead in many cases to a good deal of monotonous work, it was a thing which could not possibly be avoided. That monotonous work, taken as a whole, would be much more pleasant and much more satisfactory than if it were carried out by men of medium talents working without any guiding principles at all.

Colonel LENOX PRENDERGAST [*H.A.*] confessed that he was attracted by the title of the Paper; he felt that there were great opportunities connected with it, and he had not been disappointed. It was, indeed, one of the most important Papers that he, as a member of the Institute for a good many years, had ever heard read there. It was of the highest importance for those who were the professional workers in this great art, but it was perhaps of still greater importance to those who were outside, and who are in lamentable ignorance of the whole position. The poor British public never had a chance of learning the groundwork of the great science which architects were engaged in. Now and then one heard a Paper on some branch of the subject, but seldom or ever was the general public instructed as to how the architects derived their knowledge. The unfortunate thing was that in moving about this great city one saw the most terrible forgetfulness of what should be. He need only instance the two great Squares—Hanover Square and St. James's Square. If any body of men from outside or from some other country came there and saw the devastation which was taking place in those two Squares, where there were fine buildings enough of the date at which they were put up, what would they say? Look at the most abominable stuff to be seen at the corner of St. James's Square and the corner of George Street, Hanover Square. It was the public that wanted educating. If Mr. Paterson could only get at those people, we might do something better than that. But in the meantime one came down to the Institute attracted by papers, only to find that they end in a squabble of the styles. Surely, it was a much bigger job than that! They had not to say whether Gothic was right or whether Classic was right; but what the writer of the paper had told them that evening, that it was ridiculous to neglect the traditions of a great science like architecture. They must go back, and not forget that they had something to learn. He wanted to turn the ideas of the Meeting to this, that here they had the Royal Institute of British Architects occupying a leading position, and yet somehow or other they were unable to get in touch with the general public. They must find a way, though no doubt the difficulty was enormous. Mr. Paterson's was one of the most thoughtful papers he had ever heard in the Institute. The whole question had been carefully and excellently summed up by the author where he said: "I am verily inclined to believe at times that the love of originality for its own sake is the root of all evil in the pursuit of the fine arts. For, indeed, that, desirable quality though it be, is just one that will not come by taking thought for it." Their great difficulty was this, that they were face to face with a new constructional method as applied to buildings in the shape of metal supports. They had to deal with these residential buildings in their cities, residential buildings with great shop fronts below them, all standing apparently on sheets of plate glass. That seemed to be an almost insuperable difficulty, but he did not believe that it was quite insuperable. It could be remedied, and the sooner they faced it the better. If in doing that they did not neglect that great principle which had been so admirably put before them, of not forgetting the traditions of the science, he was convinced that something would come out of it, to the satisfaction not only of the Institute, but of the public at large.

Mr. E. W. HUDSON [*A.*] said they were much obliged to the author for having gone so fully into the ethical part of the question, which ordinary individuals had not sufficient time to do. What perplexed him was that in tradition, as in the teachers of the present day, there were so many voices, and amongst those voices there seemed to be great confusion. Which were they to follow? Architects could not get away from the question of styles, and if they studied tradition they must to a certain extent follow either the Classic or the Gothic. There seemed to be the difficulty in getting complete originality. A hybrid style, neither the one nor the other, seemed to be a most unsatisfactory thing to arrive at, unless the fashionable system of rough-cast walls, buttressed cottages, rough woodwork and sawn beams in the drawing-room, and similar inappropriateness, was to be considered the happy medium between the two. That was the difficulty of the ordinary mind in listening to Papers such as this. What was the practical outcome? Their own architecture might be bad, but, cosmopolitan as art might be, he did not think that they could look to the Continent or the United States for a style or a mode of dealing with construction which would give them the *ne plus ultra* of what they apparently in England were seeking to find. He would not speak of Dutch *diablerie*, of German gewgaws, nor of French frivolity of style, as seen in much civil architecture, but it seemed to him from the illustrations they saw and from the small observation he had been able to make that they could not in the capitals and the cities of the countries of Europe find much in new work which it was desirable to imitate. As regards the new methods of construction, such as those employed in the twenty-story buildings of the United States, he supposed they did not want to see steel construction developed to that extent in London. But, leaving those out of the question, the libraries and other important public buildings which had been described in that room were no doubt very excellent; but amongst our own works we might find some which were equally good. As regards originality, liberty seemed to him a great thing in art. He supposed there would be no art without liberty. In mediæval times the building certainly represented the wants of the age, and it was quite impossible to mistake a palace for a hospital or a church for a guildhall. Undoubtedly it was necessary that they should study all those things in order to produce anything which was excellent and suitable to the present time. He thought a certain injustice had been done to the Gothicists. They had been pointed at as archæologists, as if they were the only archæologists that existed; but on the strength of Mr. Fergusson's remarks he thought that they might say that the term archæologist applied equally to Classic as to Mediæval reproductions. Fergusson said that in many respects the portico of the British Museum was a worse example of archæology than the design for the Law Courts. Therefore certain justice must be done to the Gothic revival: they were not altogether the sole reproducers of things which had gone by. In London they had some instances of original architecture, but whether they were in advance of the work of those who had studied the traditions of the past closely it was not for him to say. For instance, the Grosvenor Hotel, the Charing Cross Hotel, and the old Strand Music Hall were all examples of originality; but amongst such work, or that of the so-called "New Art" designers, was there anything which they could pick out as the acme of what they should attempt to follow? If so, and a consensus of opinion were ever possible, the public might take heed to the cry, "*Eureka!*" To-day, however, as during the last century, it was but a case of rising and waning fashion, and the people were indifferent.

The PRESIDENT, in putting the motion, said that he thought Mr. Paterson's Paper was one of the best they had had in the Institute for many years. It was a Paper full of solid thought and very serious import. It pointed out the absolute necessity of the study of architecture, and architecture as studied by the tradition of the different phases it had gone through in former times. It entered a strong protest against nonsensical affectation and crudities of design which were called originality. He could not quite agree with Mr. Paterson's remark that the "influence of the revivals of the last century must be admitted now to have been, as regards the main issues, for evil rather than for good." The Classic revival that took place at the early part of last century was engendered by the Classic studies that men went in for at that period to a far greater extent than, as a general rule, they did now. The Gothic revival, he supposed, was caused by certain works that had been written, and possibly also by easier methods of transit; and to say that this only resulted in evil was scarcely correct. For one thing, they taught men to learn, and that, after all, was the first point. He had a strong feeling that the best sort of originality was obtained from the men who had the widest knowledge of ancient precedent, whether Classic or Gothic; men of the largest knowledge, which enabled them to be the most original. Originality that was simply caused by an affectation of avoidance of acknowledged forms of the beautiful—such as making columns of absurd proportions, and cornices with mouldings entirely different from what we have accepted as giving a good effect, without any *raison d'être* for the alterations—seemed to him to be entirely wrong. The result of the wonderful researches that were made during the course of the last century had ended in the most extraordinary developments of science. These results were not obtained by men working without having studied what had gone before—quite in opposition to the lines laid down by a certain school, which chose to ignore precedents and go back, as Mr. Paterson said, to prehistoric times. What was the use of our having examples of ancient history, ancient architecture, ancient painting, and ancient sculpture, if we were not to profit by what had gone before? He for one had entered his strong protest against that sort of theory in every address and speech which he had delivered in that room. A wide education was the thing that was most necessary for the architect. Colonel Prendergast had referred to the education of the public. As he had pointed out over and over again, the education of the public in architecture must result in the first place from the education of the architects themselves. It was only by the architects that the public could be influenced in that way. He certainly thought that there was a more intelligent interest on the part of the public at the present moment in regard to architecture than there had been in any previous time in the history of this country. He constantly met people who had nothing to do with architecture who were most interested in the new buildings that were being erected, and could discuss them and pronounce their opinions on them, which was a thing one never heard of twenty or thirty years ago. He wished to express his very great thanks to Mr. Paterson for the exceedingly good Paper he had put before them. As he had said before, it was one of the best they had had in the Institute for many years; and it had a very serious meaning to it.

Mr. PATERSON, in the course of his reply, said that he would like to enter a little protest against what he thought had been a misinterpretation of his sentiment with regard to the Gothic and Classic revivals of the last century. Both Mr. Fellowes Prynne and the President seemed to speak as though he had altogether decried them; and he would very strongly deprecate that view of the matter. He was bound to say, however, that he still thought that while the adherents of the various styles had been quarrelling and fighting they had been losing their balance and were liable to fall to the ground, and, as Colonel Prendergast said, the public were left without a guide. Mr. Fellowes Prynne had quite rightly cautioned architects in general against abusing the work of their fellows; still there were times when it behoved one to speak out. He felt very strongly that the present tendencies of the modern school were, unless checked—and he believed the voice of the Institute would help to check it—likely to do harm to the progress of architecture in this country to an even greater degree than the wrangling of the styles on either side had done harm. As to the position of English civil architecture as against Continental architecture—a point in his Paper that had been criticised—one of the speakers had said that there were as good buildings in England as those that were spoken of on the Continent, but did not proceed to particularise. In his Paper he had given buildings in Paris to compare with; and he should like to know the buildings which for nobility and greatness of conception, as instances of civil architecture in which the details were worked out, could be compared with them. Take the conception, the design, and the execution of the iron staircase of the Grand Palais. He ventured to think that there were very few, if any, architects who could draw it in this country, while, if they did, they could not get a workman to carry it out. He thought that was due to the lack of traditional training.

Mr. HUDSON said that he referred to civil architecture generally in Paris as compared with our new architecture in London. In boulevard after boulevard there was no attempt at style of any kind.

Mr. PATERSON, continuing: Of course, in every country there was a mediocrity of architecture. The outstanding work of genius must in all cases be the exception. The outstanding work of the genius was the flower of the particular art of the particular period of a particular nation, and for purposes of comparison he ventured to suggest that if they took the flower of the art on one side they must bring up the flower of the art on the other. He quite admitted the monotony and lack of interest of much of modern French civil architecture, but he also maintained that it was better than the blatant vulgarity of much we have in this city. Mr. Wilson, his compatriot and fellow-townsman, had raised the question of the suitability or otherwise of Scottish domestic architecture for modern needs. He had very strong feelings on the subject, and would be glad to take up the cudgels on behalf of Scottish domestic architecture, as he had done in writing before now, but that was a side issue and could not well be dealt with now. Mr. Wilson had also alluded to the outstanding examples of the "New Art" in Glasgow. That, of course, was just why he had taken up the subject—at least, that was one of the main reasons for doing so, because the thing, while by no means confined to that city, was so much in evidence there. At the same time, he would venture to ask Mr. Wilson if he had any special authority for referring to these buildings as being by *prominent* Glasgow architects? In conclusion, while expressing his disappointment that the meeting had not produced someone to maintain the other side and to answer the questions asked in the course of the Paper, Mr. Paterson desired to acknowledge very heartily the close attention and very cordial appreciation which the President and members generally had accorded to his attempt to think out the subject.

INCORP 1837 1887

9, Conduit Street, London, W., 26*th April* 1902.

CHRONICLE.

Public Decorations for the Coronation.

The following letter sent from the Institute appeared in *The Times* of the 16th inst.:—

To the Editor of The Times.

Sir,—It is to be hoped that on this exceptional occasion the opportunity will not be lost of endeavouring to raise the style of our festal decorations to something higher and more artistic than has generally been seen on similar occasions in London, and that those who are concerned in the erection of triumphal arches and other decorative trophies will think it worth while to seek the assistance of eminent artists for their design, instead of being content, as we too generally are in England, with the mere commonplaces of trade furnishers.

It is recorded in Vasari's life of Jacopo Sansovino, that on the occasion of a State entry of Leo X. into Florence, in 1514, the streets and principal buildings, and notably the then blank façade of the Duomo, were decorated by Sansovino and his friend Andrea del Sarto, working in collaboration, with such success as to elicit general admiration, and even induce the Pope to express a wish that the temporary façade of the Duomo had been the permanent design.

At the entry of Charles II. into London at the Restoration it is evident that some exceptional efforts were made to give architectural character to the decorative erections, for there are in the Crace collection engravings of four designs for triumphal arches, to be erected in Leadenhall Street, at the Royal Exchange, in Wood Street, and at Whitefriars. The original drawings of these designs are in the "Burlington-Devonshire Collection" in the library of the Royal Institute of British Architects, and, though unsigned, are evidently the work of an able hand.

Surely such precedents are worth taking to heart on the present occasion. A trophy designed by an eminent painter and sculptor, or painter and architect, or by eminent men in the three arts working together, would be likely to have a very much greater interest and a higher artistic quality than can be hoped for from decorative erections carried out on a merely commercial basis.—We are, Sir, your obedient servants,

William Emerson, *President*
Alexander Graham, *Hon. Secretary* } R.I.B.A.
W. J. Locke, *Secretary*

Special Elections to Fellowship.

At the meeting of the Council on the 21st inst., the following gentlemen, being Presidents of Allied Societies, and found by the Council to be eligible and qualified for membership under the Charter and By-laws, were, under the proviso to By-law 9, elected to the Fellowship of the Royal Institute:—

Arthur Harrison, *President of the Birmingham Architectural Association*, of 109 Colmore Row, Birmingham.

Arthur Wakerley, *President of the Leicester and Leicestershire Society of Architects*, of 14 Market Place, Leicester.

The April Statutory Examinations.

Statutory Examinations of persons seeking to qualify for candidature as District Surveyor under the London Building Act, or as Building Surveyor under Local Authorities, were held in the rooms of the Institute on the 17th and 18th inst. Four candidates presented themselves and were examined—viz., three in the District Surveyors' and one in the Building Surveyors' Examination. Two among the former passed—viz.

Thomas Handy Bishop, jun. [*A.*], of Leighton Buzzard.

Arthur Maryon Watson [*A.*], B.A., of 9 Nottingham Place, W.

These gentlemen have accordingly been granted by the Council Certificates of Competency to act as District Surveyors under the London Building Act.

The British School at Rome.

The Council have voted an annual grant for five years of twenty guineas to the British School at Rome.

This School was started on a very modest scale about eighteen months ago, the aim of its promoters being to provide for Rome an institution on the same lines and in many respects with the same mission as the British School at Athens. To quote Professor Lanciani when addressing the Institute in November 1900, on the occasion of his Paper on the recent Excavations at the Forum, the idea is to provide somebody in Rome who will take care of English students. Whether they come from the Universities or as students from art academies or similar institutions, they will find someone in Rome ready to help them, to smooth their way, to direct their first steps, to introduce them to the proper authorities, and to give them a shelter if they need one. He advised the authorities at home not to send archæologists alone. The School will prove of the greatest practical advantage to architectural students. France especially has found that there is much to be learned from the old architecture of Rome, and inspirations to be gathered there. Though in Greece we may get the foundation of artistic feeling, of whatever is beautiful and ideal and admirable, it is from the ancient buildings of Rome that we may learn how to apply the principles of Greek art to the needs of civic life. The School, in fact, is less predominantly classical and archæological than the sister School at Athens, the galleries, libraries, churches, museums, &c., of Rome, affording scope for the widest range of study.

The President at Cardiff.

The President, Mr. William Emerson, was the principal guest at the Annual Dinner of the Cardiff, South Wales, and Monmouthshire Architects' Society, held on Saturday, the 12th inst. Replying to the toast of "The Royal Institute of British Architects," Mr. Emerson urged upon architects the desirability of combination through the Institute and its allied branches. The end and aim of the Institute were to promote the advancement of architecture, and to look after the interests of the profession. England was behind every other European country in architectural education, and one of the chief objects of the Institute and its members should be to educate the public in its appreciation of what was best in architecture. Thanks to the Examinations organised by the Institute, decided strides had been made in the education of the rising generation of architects. The Examinations were largely taken advantage of, and every year saw an increase in the number of candidates. They wanted, also, to educate architects themselves to have some self-respect and *esprit de corps*, especially upon the burning question of competitions. All sorts of competitions were started by public bodies nowadays, and many of them were grossly unfair. There seemed to be a large number of architects ready to rush into any competition, and they made their work so cheap that they seemed to be ready to cut one another's throats. While they did that they could hardly expect the public to value their work as it ought to be valued, nor was it to be wondered at if public bodies expected them by these competitions to turn out their work as if they were machines. He knew of one case in which the plans sent in could not have cost less than £50 each set, and the total value of the plans in the competitions was £3,000, whilst the value of the commission for the successful competitor was not more than £2,000. Architects should not enter competitions unless those asking for them were prepared to pay a proper fee for each set sent in. Another matter that the Institute had under consideration was the appointment of assessors, whose assistance in competitions had been valuable. Out of thirty-nine cases in which the assessors were appointed by the Institute only two had proved unsatisfactory, whilst of the seventy or eighty cases in which the assessors had been appointed by others 17 per cent. had caused dissatisfaction. Architects suffered a great deal from rush of work. They wanted more time for reading and study. They ought to spend more time in this way, and to learn the lessons that were available in nature—in the colours, in the flowers, in the valleys, and in the hills. They ought to aim at a love of the beautiful. If they did that they would no more sit down and design some of the things to be seen in the streets of large towns than they would design a warehouse and call it a palace.

Architectural Copyright in France [p. 296].

Monsieur Charles Lucas [*Hon. Corr. M. Paris*], in a letter of the 19th April addressed to the Secretary R.I.B.A., writes :—

J'ai vu avec plaisir l'intérêt porté par l'Institut royal des Architectes britanniques à la promulgation de la loi française du 11 mars 1902 étendant aux *architectes*, aux *statuaires* et aux *sculpteurs et dessinateurs d'ornement* l'application de la loi des 19–24 juillet 1793 sur la propriété artistique ; mais la note parue à ce sujet dans le *Journal* de l'Institut royal des Architectes britanniques (*Chronique*, p. 296) me suggère deux observations que je crois devoir vous soumettre.

La première, c'est que non seulement la Société Centrale des Architectes français, mais encore la Caisse de Défense mutuelle des Architectes, la Société des Architectes diplômés par le Gouvernement, l'Association provinciale des Architectes français et l'Union syndicale des Architectes français ont, pendant ces dernières années, joint leurs efforts à ceux de la Société Centrale pour obtenir cette application aux architectes des bienfaits de la loi des 19–24 juillet 1793, et que les délégués de ces Sociétés ont accompagné les présidents successifs de la Société Centrale, MM. A. Normand et C. Moyaux, de l'Institut de France, dans les nombreuses démarches officielles et officieuses qu'ils ont faites dans ce but auprès de membres du Parlement et de fonctionnaires du Gouvernement.

La seconde, c'est que s'il est dans les habitudes du législateur de laisser le plus souvent chaque loi former un ensemble restant tel qu'il a été voté, et si c'est aux jurisconsultes à compulser et à compléter les textes, j'ai dû demander à un membre du conseil judiciaire de la Caisse de Défense mutuelle des Architectes, M. Maurice Tassin, avocat à la Cour d'appel de Paris, de compléter dans un *mémorandum judiciaire* sur la Propriété artistique des œuvres d'architecture, qu'il veut bien préparer pour les membres de ce syndicat, le texte de cette loi des 19–24 juillet 1793, et je pense que les premiers alinéas de ce texte, ainsi complété, et que je vous transcris ci-dessous, peuvent avoir quelque intérêt pour nos confrères anglais.

Texte de la Loi des 19–24 *juillet* 1793 *modifiée et complétée par les Lois du* 14 *juillet* 1886 *et du* 11 *mars* 1902.

Art. 1er.—Les auteurs d'écrits en tous genres, les compositeurs de musique, "*les architectes, les statuaires*," * les peintres et dessinateurs, qui feront graver des tableaux ou dessins, jouiront durant leur vie entière du droit exclusif de vendre, faire vendre, distribuer leurs ouvrages dans le territoire de la République et d'en céder la propriété en tout ou en partie.

"*Le même droit appartiendra aux sculpteurs et dessinateurs d'ornement, quels que soient le mérite et la destination de l'œuvre.*" *

Art. 2.—"*La durée des droits accordés par les lois antérieures aux héritiers, successeurs irréguliers, donataires ou légataires des auteurs, compositeurs ou artistes, est portée à cinquante ans, à partir du décès de l'auteur.*" †

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1901–1902, held Monday, 21st April 1902, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 14 Fellows (including 6 members of the Council). 20 Associates (including 1 member of the Council), 2 Hon. Associates, and visitors, the Minutes of the Meeting held 7th April 1902 [p. 298] were taken as read and signed as correct.

The Secretary announced the results of the April Statutory Examination [p. 319].

Mr. Alexander N. Paterson [*A.*], M.A., having read a Paper entitled "TRADITION IN ARCHITECTURE : ITS FUNCTION AND VALUE," a discussion ensued, and a vote of thanks was passed to Mr. Paterson by acclamation.

The proceedings then closed, and the meeting separated at 9.40 p.m.

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* Adjonctions apportées par la loi du 11 mars 1902.

† Modification apportée par la loi du 14 juillet 1866 ; la loi de 1793 portait seulement *dix* ans.

THE LEARNING OF ARCHITECTURE.—II.

ROYAL ACADEMY LECTURES, 1902.

By Professor Aitchison, R.A., *Past President, Royal Gold Medallist.*

BEFORE proceeding far with the subject of learning architecture I think it advisable to point out to you some of the important advantages that architecture confers on nations, to give you heart to pursue the arduous studies which architecture calls for at your hands. I think I have given you a fair specimen of some of its triumphs. All the fine arts require not only a native gift, but also immense labour, and unless you are some of those extraordinary men who have the requisite gifts for all the arts, such as Orcagna, Alberti, Lionardo da Vinci, Raffael, Michelangelo, and Perrault, it is hard to say which of the fine arts is the most difficult; but at any rate architecture requires several capacities that are not commonly found in the same person. I say so because, although each art generally requires many varied capacities, they are capacities of the same genus, whereas architecture requires several that usually do not go with the artistic temperament. For instance, the science of construction, which, in modern times at least, involves considerable knowledge of mathematics, is not usually found amongst men of emotional organisation, and that peculiar gift of arrangement which goes to form the architectural plan of a building is, I should fancy, not commonly found amongst poets. The Italians were a pre-eminently musical people, and I think they are still, so perhaps it is not much to be wondered at that so many of the Italian artists have had musical capacity combined with their other artistic gifts. Lionardo da Vinci is said to have procured some respite to the tortured souls of tyrants by his exquisite playing on the lute, and although architecture has usually enshrined some of the other great fine arts, such as sculpture and painting, it is art of an entirely different sort, for it does not copy or directly imitate Nature, but merely takes hints from it; besides, the beauty of form in architecture is different enough from the works of Nature to make a contrast with them. It not only evokes emotions by its stateliness and beauty, but also different emotions caused by size and by the stubbornness of the materials employed, by the amount of craftsmanship it embodies, and by its being built by man for men. Milton himself uses buildings to form a contrast with the works of Nature:

> Towers and battlements it sees
> Bosomed high in tufted trees;

and that is why fountains form so great a contrast to noble architectural piles, as Madame de Staël so eloquently points out in the contrast she draws between St. Peter's and the fountains of its piazza, the ever-gushing water enhancing the impression of the immovable stones.

Charles Garnier has pointed out the obtrusiveness of the creations of architectural art, which cannot be hidden like an ordinary musical instrument, like books, pictures, and small pieces of sculpture, but force themselves on your attention whenever you go abroad; and one of the merits of architecture is that if its works are of any considerable size, so long as they last they must remain in the country in which they were built, so that you must go to their native country to see them, and fine architectural buildings most strongly mark the importance and grandeur of the city or the nation which they adorn. Books, pictures, and the score of music can not only be hidden away but become the possession of all civilised countries, but to contemplate the architecture of a country you must go there. Many of the dumb nations of antiquity have only shown their former greatness by the buildings they have left behind them. The greatness of Egypt could only have been gathered from the occasional notice of it in the poets and writers of Greece and Rome, were it not for its gigantic and massive monuments. It would have been difficult for us to picture any advanced civilisation in Mexico or Peru if the ruins of their temples and palaces had perished.

Every nation that is in a sufficiently advanced state of civilisation to have noble buildings should cherish with the greatest care and lavish its honours on the architects, for its architectural monuments proclaim the degree of cultivation that the nation has attained, and that too in the most permanent manner possible. The design shows the emotional side of the art, but every stone, even if it have only a plain face, shows the skill at which the craftsman has arrived, and when the stone has to be moulded and junctions made on curved surfaces the skill of the mason may reasonably astonish us; besides, in most buildings great art may be displayed in the carving if it be beautiful and harmonise with the noble lines of the architecture. Here in England we only call figure work sculpture, and foliage and floral forms carving, but the French architects always speak of the simplest ornament as sculpture.

Viollet-le-Duc has pointed out a great difference between the French and English masons: he says that he has been told that if an English mason has to work a stone as perfectly as possible on all the six faces he will do each face with the same care and exactness; but that is by no means the case with the French mason. He will work five sides of the stone tolerably, but he will reserve his best work for the part exposed to view, for he has an artist's pride in his work; therefore it is necessary to tell the French mason which face of the stone is to be exposed.

Monsieur Beulé speaks of the temples of the Acropolis as being worked with a care that is usually only bestowed on cabinet work, and Ruskin has a most eloquent passage on seeing the real stones which the ancient Greeks have worked, as having a much greater effect on mankind than reading about them. Being an architect, of course I can only speak as an architect, but I am certainly surprised that so little is made of architects in England. The greatest of them are treated with but little more consideration than would be paid to a successful shoemaker—not that I wish to depreciate shoemaking, for, as Hume says, shoemaking is perhaps not the highest of human arts, but no one has yet met with a boot or shoe that is an ideal fit. It is quite true that we are apt to look down on the perfection of arts that we call commonplace, but perfection in these arts is almost as rare as perfection in the fine arts. I have been told by one of our eminent surgeons that no Englishman can properly sharpen a surgical knife—that surgeons who require perfection in these must send them to Paris or Berlin; and for those finer instruments for operations on the eye neither England, France, nor Germany can sharpen them to perfection, and they have to be sent to Vienna to be sharpened there. In another branch of workmanship, I was told by Castellani, the celebrated Italian goldsmith, that when he first began to copy the Etruscan jewellery he could only produce those minute balls, with which most of the plain gold surfaces are covered, by eating or cutting away the surface of the gold, but he eventually found that the

Etruscans had soldered them on, and he made experiments to see if the Italian workmen could now do them, but he found that no workman, unless he were of Etruscan descent, could ever succeed. Vitruvius, about the time of whose birth there is so much doubt, says in his account of music: "Harmony is an obscure and difficult musical science, but most difficult to those who are not acquainted with the Greek language; because it is necessary to use many Greek words to which there are none corresponding in Latin;" and from this we may suppose that the ears of the Latins were not so acute as to distinguish the delicate differences between notes which the Greeks did. I merely mention this to show the difference in capacities of past nations. You of course understand that one fine art cannot encroach on another: it is absolutely lord of its own domain. Poetry can describe all the thoughts of the mind and all the emotions of the soul, but when it attempts to describe form or colour it merely tries to raise a faint memory of beautiful forms or colours that have been seen by the hearer. It is impossible for poetry to paint the features of a face or the delicate differences of colour and texture, that the painter alone can give. Richard Jefferies, of *The Gamekeeper at Home*, once asked me if a vocabulary could not be framed that a writer could use to describe the colours of flowers and leaves that an artist could turn into the exact tones and tints, but I told him that was impossible. Painting and sculpture are more human than architecture, which merely gives us forms of beauty abstracted from the beauties of Nature, and being man's work it affords different emotions from those excited by the forms of Nature.

Some of the temple-like forms in the Virgen Valley in America are very extraordinary—we may even say that some are beautiful; but these forms do not affect us like the things that have been done by man for man's delight. We suppose that these forms have been carved by the blind forces of Nature, and if they affect us it is because the forms happen to remind us of something that man has done. Nature's chisels are rain, water, snow and ice, heat, dust-laden winds, and lightning. The temples of Greece, after the wood was replaced by marble, are the earliest examples of perfect architecture we know, and these temples were mostly built as offerings to propitiate the gods, and as places where their worship could be daily carried on; and considering that the Greeks are said by Sir Douglas Galton to have been as superior in intellect to the present inhabitants of Europe as the latter are to the negroes, we are not surprised that their architecture has been the most perfect that mankind has yet seen upon the earth. Like all sublime things, the effects of these temples are got by the simplest means; in fact, most young architects, when they have mastered the elements of the Grecian Doric, lament to themselves that the Greeks had invented this order of architecture before them: and we are all apt, like St. Augustine, to curse those who have said our good things before us, but if we had the capacity and industry of the Greeks we could succeed as well as they did with the structures that we now build. No greater mark of genius can be shown than the apparent ease with which a masterpiece seems to have been done, and if you see any masterpiece that you think you could have done you may be sure that it is a creation of genius; much of this apparent simplicity has been produced by the elaborate study of form and of light and shade.

By the investigation of Nature and the invention of generations we have been enabled to use some of the powers of Nature to do our work, but this has not helped us at all in the production of beautiful architecture; we have not only not advanced but have not come up to the efforts of early civilised man, and it is only by the untiring pursuit of all the causes that have produced beauty in architecture that we can ever hope to build structures that rival the Greek. All an architect can do is to build, and the question for architects to consider is how they can evolve from the past new forms or modify old ones, so that they may now evoke those emotions which the building is desired to produce. It is not likely that the great mediæval structures now convey the same ideas or excite the same emotions as they did at the time of their building; but we know that they were built to raise the emotions of awe, thankfulness, and hope, and we rather incline to take it for granted that they evoke the same emotions in us as they did in the people they were built for. The ecclesiastical buildings of the mediævals certainly excite in us an admiration for their size, grandeur, and invention, achieved too with so small an amount of material; but in many of the buildings that we erect we can hardly say what emotions they are required to evoke. The earliest buildings, if they can be called buildings, that I have seen are the Pyramids of Egypt, and they certainly are fine contrasts to the dull uniformity of the flat desert, and when the Pyramids were covered with polished stone the reflection of the sun at sunrise or sunset must have been almost overwhelming. Before the Mont Cenis tunnel was built there was a piece of porphyry rock, about half a mile long, that had been cut like a piece of cheese and polished by some avalanche, that glowed in the sunset as the limestone facing of the Pyramids never could have done, and on a much vaster scale. This rock was possibly cut and polished at the time of Noah's flood.

It may seem hardly fair to describe to you the emotions that the various buildings I have seen aroused in me, but it is not from vanity I do this, but because I think it better for you that I should describe what I felt than copy out the impressions produced on somebody else.

Pallas Athenè was the Greek Goddess of Wisdom, and the Greeks considered wisdom the most important of the qualities that formed their creed, which were wisdom, courage, temperance, and justice, if we may take Plato as an authority, for he put wisdom first, as we put courage. As Athenè is not one of our divinities it is perhaps difficult to conjure up the emotion that she excited in an ancient Greek; but her temple at Athens, the Parthenon, as an architectural composition is one of the most perfect things that man has created. Every recondite art has been applied to it, and we could look at it for ever without being palled, for it has those slight variations which Nature gives to all her works, and you no more tire of it than you do of an ivy-draped bank. The grace of one of those ruined Ionic columns that you can still see in the portico of the Erechtheum is a revelation of the beauty that man has conceived and executed, as the Caryatid temple at the end of that long blank wall is certainly in my eyes one of the most charming pieces of design that I have ever seen. The Choragic monument of Lysikrates is also a most beautiful little structure, although so much ruined by the tooth of time; but it has faults—at least in my eyes.

In that small spot of ground, the Acropolis of Athens, we see a group of buildings that give us the highest opinion of the genius and cultivation of the Greeks—the temple of Wingless Victory (Nikè Apteros), the Propylæum, the Parthenon, and the Erechtheum; and if no one else had been struck by these buildings we should still consider that the authors of such works must not only have lived amongst a highly cultivated people, but must have been blessed with supreme artistic power; but so far is this from being the case that the buildings of the Acropolis were the lodestar of the tasteful of the great Roman Empire. And although the Greeks have excelled in poetry and in the drama, in history, in eloquence, in philosophy, in astronomy and in metaphysics, in painting, sculpture, and architecture—in short, in every form of beauty—they have also given us examples of the most heroic and persistent courage. Their overthrow of the forces of Xerxes reads like a miracle, and when they got a genius like Alexander, though a barbarian, to lead them, they carried their arms further east than their great successors the Romans, who, so far as I recollect, never conquered much country beyond the Tigris, whereas Alexander led the Greeks beyond the five rivers of the Punjab, perhaps across the Ganges. The Romans carried on the arts of the Greeks as far as an inartistic people could carry them on. As mere builders, they built more stupendous works than the Greeks, and they understood the important effect of architectural works on the imagination of mankind.

From which of the nations they conquered they learned the art of building in concrete I know not, but they carried out buildings of colossal size with this mean material, though it was generally faced with precious marbles. For solidity and largeness the Roman buildings were only surpassed by the Egyptian: the aqueducts that cross the Campagna of Rome are not only great works of construction but are most picturesque, as were also the Roman baths and amphitheatres; but speaking of important works of fine art we must give them credit for their triumphal arches, which are both original and striking. The only finished architectural interior at Rome that still remains is that of the Pantheon, which has a superb artistic effect, and this owes much of its sublimity to its unique method of lighting. It seems to me that the great architect who built it, whose name has been lost, had seen the grand effect of one of the Laconicums, and determined to try it in this temple to all the gods.

The Romans considered fine architectural buildings essential to their greatness, and in every conquered country they put up important buildings, which was the sign manual of the conquering race; and that they were aware of this impression is plain, for cities that they took from enemies that they feared or hated they utterly destroyed and left not one stone standing upon another. The Roman Church had apparently caught this view of architecture from the Romans, and covered the whole of the countries that had embraced the new faith with churches, cathedrals, monasteries, and nunneries, and from these civilisation and culture were spread again after they had been destroyed by the irruption of the barbarians.

It must have struck all of you when you have been in some remote part of the country where the old churches still remain, that though they are by no means always striking or beautiful, still they at once call to our minds the presence of a civilising influence; for every architectural building presupposes, besides its art, the presence of a large number of different craftsmen to complete it—the mason, the carpenter, the smith, the tiler or slater, the plumber, the plasterer, and the glazier. No written record that I recollect suggests so much co-operation to complete a fine building as the list of artificers that is given in one of the Constantine Decrees when that emperor was changing the capital of the Roman Empire from Rome to Constantinople. All master workmen were invited to come to Constantinople, and were to be freed from taxes if they brought up their sons to their own trade; and the architects were allowed the same immunity, and their sons, if they were satisfactorily studying the art, had the additional incentive of a salary.

After the development of Byzantine architecture we have the style, imitated from Roman and Byzantine work by the barbarians who overthrew the Roman Empire, now called Romanesque, and the particular form that it took under the influence of the Normans was very grand and impressive, though more or less barbarous. As far as I recollect, the finest instances of large churches or cathedrals in the Romanesque style are those built in parts of Germany. But to return to the Normans: the massiveness and effect of this species of Romanesque can be best seen in England at Durham, where it looks as if inspired by giants or magicians, as too colossal to owe its existence to ordinary mortals. The contrast between it and the early Gothic is nowhere more pronounced than at Southwell Minster, the nave and aisles of which are Norman and the choir Early English, which, though more refined, is so slight in its construction that it is quite overshadowed by its colossal predecessor. There is another striking contrast at Strasburg Cathedral; the nave and aisles are mostly of late Gothic, but by the apse there are some massive Romanesque piers that seem to have belonged to the epoch of the giants, and, after their overthrow, the slight filigree window work may be reasonably set down to mortals. As I have said, no architectural history of Romanesque or Gothic, as far as I know, has come down to us. We know that architecture was studied by many of the priesthood—Lanfranc, for example, who was afterwards made, by William the

Conqueror, Archbishop of Canterbury; and schools were established at some of the mother monasteries for supplying designs for new churches, cathedrals, monasteries, and nunneries. But almost as soon as the invention of the flying buttress, the architects separated themselves from ecclesiastical rule and made trade guilds of their own; and these architects were so full of invention, and so eager to show their improvement in construction and their ready invention, that buildings begun in one century, if not finished at once, showed the development of a new style of Gothic; eventually the possibility of working stone to extreme slenderness and into all sorts of shapes that stone does not seem to lend itself to, and the use of stone in tension, seemed to be the great aim of the architects. All external ornamental tracery was made so slight that in most cases the mere waste from the elements has in a few centuries rendered it unsafe, and had it not been for the care taken by the French Government in repairing its churches and cathedrals a large number of them must have fallen.

The last phase of Gothic in England we call Perpendicular: it is marked by enormous windows, and by tracery that is so fine that it almost looks like cast iron. The vaulting through the best Gothic times was rib and panel vaulting: this form of vaulting about this time ceased to be used, and fan vaulting took its place, the ribs of which were carved out of the solid stone of the vaults, as may be seen in Henry the Seventh's Chapel in the Abbey, and masons' tricks were supposed to be the great achievements of architecture, certainly to an ignorant population vaults which carried pendants must have been most surprising. In my youth I went into the porch of a church with a fan vault, and was much astonished to find that what I at first took for the top of a column was merely a pendant. The Gothic architects also adopted the Saracen methods of complexity, though not so wonderful in effect as the Saracen stalactite domes, which strike you as being the work of enchantment, as their complexity is such that at first sight it seems impossible for humanity to have conceived and carried them out; but when once the method by which these wonders have been achieved is discovered we are disgusted with their monotony, as we are with the Gothic fan vaulting. Nothing can be more oppressively monotonous and dreary than the fan vaulting we see in Henry the Seventh's Chapel, at King's College, Cambridge, and Christ Church, Oxford, so that we hunger for a little bit of art work to replace the inane geometry, and we can well understand the delight with which the Italians welcomed revived Roman. The Gothic epoch was one of the great art epochs of the world: it was not only a new æsthetic form but also a wonderful stride in construction, for certainly no people before or since have ever attained that knowledge of the capabilities of stone that was attained by the Gothic architects and masons. The nations of Europe had, less than a century before the evolution of Gothic, stemmed the torrent of Saracen conquest towards the west and carried the fighting into the Saracens' country, and had held Jerusalem and the neighbouring cities for very nearly 200 years; Jerusalem was taken in 1099 A.D.; the Crusaders were driven out of Acre 1291 A.D. In the year 1000 A.D. this world was expected to be destroyed, and when it was not destroyed buildings without number began to be erected throughout Europe, and human thought in this direction was allowed free scope, without fear of imprisonment, torture, or the stake, which was the reward of every other exercise of thought except generalship. The architects felt that all they could do was to build, and towers, spires, and lanterns burst out all over churches and cathedrals, and the subsidiary arts took an immense stride: the wooden roofs of churches were not only trussed in a new fashion, but the ends of the severed tie-beams blossomed into angels with folded or outspread wings, and the glories of the stained glass were such that even now when we see but the patched remainder of these windows we feel that the highest aspiration of man is to be a glazier, to such overwhelming glory does the old stained glass attain.

REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1901–1902.

Approved and adopted by the Annual General Meeting, Monday, 5th May 1902.

SINCE the publication of the last Annual Report the Council have held 19 meetings, of which the Council elected in June last have held 15. The President, Mr. Wm. Emerson, elected in June for a third year of office, has presided over most of the meetings, except during his absence from December to February in India, when the chair was taken and the various duties falling to the President of the Institute were fulfilled by Mr. John Slater, then Senior Vice-President.

The losses by death have been as follows :—*Fellows:* Edward William Barnes, Robert Isaac Bennett, James Brooks, John McKean Brydon, Arthur Cates, Walter Glynn Doolin, Ebenezer Gregg, William Jeffrey Hopkins, Charles John Innocent, George Judge, John Littlewood, John Mackland, Edward Henry Martineau, Walter Green Penty, Frederick William Porter, James Stevens, William Larner Sugden, Henry Richard Yeoville Thomason. *Associates:* William Bassett-Smith, William Chastel de Boinville, Goymour Cuthbert, Thomas Gordon, John Lee Hodgson, John Alexander Russel Inglis, Herbert Richard Lloyd, Hugh Thomas Porter. *Hon. Fellows:* The Marquis of Dufferin, Sir Richard Temple. *Hon. Associates:* Hugh Leonard, Alfred Thomas Osmond, Edmund William Smith. *Hon. Corr. Member:* Victor Schroeter.

While recording the above the Council again express their deep regret at the loss of their old and valued colleagues, James Brooks, Arthur Cates, and J. M. Brydon. To Arthur Cates the Institute owes the present development of the Examination scheme. James Brooks was always a wise counsellor and loyal friend. J. M. Brydon, taken away in the midst of his work for the Institute as Vice-President, and in the early tide of his fame as an architect, before he could see one stone of his life's principal work placed upon another, will always be a memorable and pathetic figure.

The Royal Gold Medal was not awarded last year, owing to the death of Queen Victoria. This year Mr. J. F. Bentley, the Council's nominee, died two days before the date appointed for his election. The Council, having consulted the King's pleasure, were unable to recommend the general body of the Institute to present the Medal to Mr. Bentley's family, and have therefore nominated Mr. T. E. Collcutt.

The following tabular statement shows the present subscribing membership of the Institute, compared with that at the corresponding period last year :

Year	Fellows	Associates	Hon. Associates	Total
1901	621	1,028	46	1,695
1902	617	1,071	44	1,732

During the official year since the last Annual General Meeting 25 Fellows have been elected, and 70 Associates. Three Hon. Corr. Members have been elected: Sainte-Marie Perrin (Lyons), Enrique Mariá Repulles y Vargas (Madrid), M. Alberto de Palacio (Madrid).

The usual Progressive Examinations were held in June and November 1901, and, as last year, the Council have to report a steady increase in the number of candidates for each of the examinations. The Preliminary was held in London, Birmingham, Bristol, Cardiff, Dublin, Exeter, Leeds, Manchester, Newcastle, York; the Intermediate in London, Bristol, Leeds, Manchester, Newcastle, York; and the Special Examination for Colonial candidates was held in Montreal. The very cordial thanks of the Council are due to the Hon. Secretaries and Examination Committees of the various Allied Societies and of the Institutes of Quebec and Ontario for their ready and valuable assistance. The Final and Special Examinations were held in London. The results are shown in the following tabulated forms. There were eight candidates for the "Special" Examination for Architects in practice over twenty-five years of age and Chief Assistants over thirty, of whom seven passed.

PRELIMINARY EXAMINATION.

Exempted	Examined	Passed	Relegated	Total
79	310	206	104	389

INTERMEDIATE EXAMINATION.

	Examined	Passed	Relegated
Metropolitan	110	67	43
Non-Metropolitan	56	28	28
Total	166	95	71

FINAL AND SPECIAL EXAMINATIONS.

Examined	Passed	Relegated
119	68	51

The total number of candidates examined during the year was 674 as against 603 in 1900. The number of Probationers of the Institute now stands at 1,699, and of Students at 402.

Owing to the death of the donor there were no Arthur Cates Prizes available for award as a result of the Examinations last year. But now the Council, having invested the sum of £1,500 bequeathed by Mr. Cates to the Institute for the purpose of endowing a Prize to bear his name, have instituted such a Prize under the general conditions regulating the Prizes and Studentships, and have thought they were best carrying out Mr. Cates's wishes by drawing up the conditions as nearly as possible on the lines of those laid down by Mr. Cates for the prizes he awarded during his lifetime.

The Ashpitel Prize was awarded to Mr. Charles Thomas Adshead [*A.*], who passed the Final Examination in November. A Special Prize of books to the value of ten guineas was awarded to Mr. F. Dare Clapham [*A.*], a Special Candidate at the June Examination, who made the highest number of marks recorded in the Final Examinations.

The "Special" Examination will be held this year in Montreal and Melbourne.

The Council desire to tender to the Board of Examiners their warmest thanks for their invaluable services.

Statutory Examinations, qualifying for Candidature as District Surveyor in London and for Candidature as Building Surveyor under Local Authorities, were held in October and April last. Certificates of competency to act as District Surveyors in London have been granted to Mr. C. O. Nelson [*A.*], Mr. T. H. Bishop, jun. [*A.*], and Mr. A. Maryon Watson [*A.*].

The Deed of Award of the various Prizes and Studentships was presented to the Institute at a General Meeting on the 20th January. At the distribution of Prizes on the 3rd February, after the Address to Students by Mr. John Slater, Senior Vice-President, a criticism of the work submitted was read by Mr. H. T. Hare [*F.*]. An exhibition of the drawings was held from the 14th to the 25th January in the gallery of the Alpine Club. A selection from the Prize Drawings is now being sent round for exhibition at the allied centres.

One of the most interesting events of the year was the Institute visit to Glasgow in October. According to recent custom the Annual Dinner of the Institute is held at a non-metropolitan centre every third year; it was held in 1895 in Manchester, in 1898 in Birmingham, so that in 1901 came the turn of a non-metropolitan gathering. The Glasgow Institute, taking advantage of the fact that the International Exhibition would be a great attraction to their city, invited the Council to hold the Annual Dinner in Glasgow last year. The Dinner took place at the Windsor Hotel, on Thursday, the 4th October, the attendance being larger than at any previous Institute Dinner, with the exception of that held in 1900 in London, when H.R.H. the Duke of Cambridge was present. On Friday the 5th the Institute was publicly entertained by the Glasgow Institute at lunch, the Glasgow University at tea, and the Corporation of Glasgow at a large evening reception. The hospitality shown to the Institute as a body and to members individually gave a social charm to a most interesting visit.

The Annual Dinner will take place this year at the Hôtel Métropole, on Thursday the 19th June.

Messrs. W. M. Fawcett and W. H. Seth-Smith have been elected as representatives of the Council on the Council of the Architectural Museum.

The vacancy on the Board of Directors of the Architectural Union Company caused by the death of Mr. Arthur Cates has been filled by Mr. P. Gordon Smith [*F.*].

The vacancy on the Tribunal of Appeal (London Building Act 1894) caused by the death of Mr. Cates has been filled by Mr. E. A. Gruning [*F.*].

The President attended, as the delegate of the Institute, the Jubilee of Owens College, Manchester, celebrated on the 12th and 13th March.

Messrs. Thos. Blashill and John Slater have been appointed to represent the Institute at the Annual Congress of the Sanitary Institute to be held at Manchester in September.

The Council regret to say that the action they have taken with regard to the execution of Mr. J. M. Brydon's design for the new Government buildings in Parliament Street and the amended conditions for the Liverpool Cathedral Competition has been fruitless of result. The correspondence that has taken place with regard to these two matters has already been published in the JOURNAL.

In June last, on the recommendation of the Art Committee, a letter was written to the Dean of St. Paul's urging the public exhibition of the designs for the decoration of the drum of the dome. An acknowledgment of receipt of the letter was received from the Dean.

On the 29th April 1901 a Special General Meeting, summoned under By-law 68 by twelve subscribing members, was held to consider resolutions concerning the competition for the National Memorial to Queen Victoria. The resolutions which were passed were forwarded to Lord Esher, whose reply on behalf of the Memorial Committee is printed in the issue of the JOURNAL for the 27th July, p. 432, Vol. VIII.

At the request of the Master of Magdalene College, Cambridge, and with the permission of Mr. Sargent, R.A., the portrait of Mr. Penrose has been copied for Magdalene College by Mr. C. M. Newton. The portrait of Prof. Aitchison by Sir L. Alma-Tadema, R.A., was lent by the Council to the Royal Birmingham Society of Artists for their Annual Autumn Exhibition.

The Council have been in correspondence with the Ulster Society of Architects, a new

Society admitted into constitutional alliance with the Royal Institute of Architects of Ireland, with regard to the Belfast Corporation Bill now before Parliament. Certain clauses giving the control over the design, elevation, and height of buildings in Belfast were strongly opposed by the Ulster Society. The Council gave the Society their unconditional approval and promise of active support if needed. The objectionable clauses have been dropped in Committee of the Lords, and the Society, being successful, have withdrawn their opposition.

The resolutions passed at the General Meeting on the 2nd December 1901 with reference to Rural District By-laws to the effect that provisions in a model set should be made to enable Rural District Councils to regulate party walls as distinct from external walls, and also with reference to extending the regulations as to party walls laid down in the London Building Act to the whole of the United Kingdom, have been forwarded to the Local Government Board. The Board has not yet communicated its decision on these matters to the Council.

The Council, hearing of the proposed colossal building to be erected by an American syndicate on the "island site" of the Holborn to Strand improvement scheme, and seeing an illustration of the design published in a periodical, sent a protest on the subject to the London County Council, from whom they received a sympathetic and satisfactory reply. [See Journal, p. 160.]

The Joint Committee of the Royal Institute and the Surveyors' Institution have drafted a "Bill to amend the Law relating to Easements of Light," which has received the approval of the Councils of the two bodies. It has now been referred back to the Joint Committee with powers to take steps to have it brought before Parliament as soon as possible.

As the necessity of obtaining new premises is year by year growing more pressing, owing to the gradual expansion of the various interests with which the Institute is occupied, the Council have turned their serious attention to the matter. The sum of £1,000 has been invested in Indian Government Stock and appears on the balance sheet appended to the Report as the nucleus of a Building Fund, which will be allowed to accumulate practically at compound interest. Without wishing at the present moment, when no specific building scheme is before them, to open a formal subscription list, the Council beg leave to draw the attention of members to this fund, to the increase of which they would be very glad to receive any donations. The movement towards obtaining new premises has, however, gone so far as this:—A Joint Committee of the Council of the Institute and the General Committee of the Architectural Association have met and have reported that it is desirable for the two organisations to combine in one building scheme. The Council have approved this report, and have agreed with the General Committee of the Architectural Association that while it was desirable that they should occupy one site and have some of the accommodation in common, yet the respective premises should be to all intents and purposes separate buildings.

The Joint Committee having thus reported on the desirability, are now considering the other point of their reference, *i.e.* the possibility of the two bodies uniting in such a scheme. This can only be decided when definite sites have come under discussion. Two members of the Joint Committee have been commissioned to take steps to find a suitable site. A rough estimate has shown that the requirements of the Institute will need some 10,000 feet super, and those of the Architectural Association 5,000 feet super. The Council will gladly receive information as to available sites from members. The present premises are leased to the Institute until the 24th March 1920, but the lease can be determined at Midsummer 1904 by giving six calendar months' notice.

Owing to the need of more accommodation the Council have had the basement room of the Institute premises converted into an office for the Assistant Secretary. They have also arranged for book-cases for octavo books to be fitted along the wall of the meeting-room, and are considering a scheme for the treatment of the wall behind the President's chair so as to allow for more picture space. In accordance with a suggestion made at the last Annual General Meeting, the Council have taken measures to secure more comfort and better lighting in the meeting-room.

In order that the Institute should to some extent co-operate in their useful work with the Coal Smoke Abatement Society, the Council have arranged for one of their number to have a seat on the Committee of the Society, and Mr. W. D. Caröe has consented to serve as the Council's representative. The Council have contributed a donation of five guineas to the funds of the Society.

The Council have granted a donation of fifty guineas to the Cretan Exploration Fund (Knossos Excavations).

The Council have also voted a grant of twenty guineas per annum for five years to the British School at Rome.

The question of the appointment of Assessors has been brought to the notice of the Council, first through the discussion at the Business Meeting on the 2nd December, and again by a set of resolutions passed at an informal meeting of London architects interested in competitions. These resolutions (printed in the JOURNAL of the 22nd March) are of a far-reaching character and demand serious consideration from the Council, who have referred the matter for report to a Select Committee of their number.

The following tabular statement shows the appointments to assessorships during the year since the publication of the last Annual Report:—

COMPETITION.	TOWN.	ASSESSOR.
Public Baths	Camberwell	Mr. A. Saxon Snell.
Commercial Travellers' Schools	Pinner	Mr. B. Ingelow.
Board School	Heston	Mr. T. J. Bailey.
Thermal Pump	Buxton	Mr. T. H. Oldham.
Public Library	Kingston-on-Thames	Mr. Basil Champneys.
Infirmary	Leigh	Mr. Alex. Graham.
Chapel	London	Mr. T. E. Collcutt.
Union Offices	Eccleshall	Mr. P. Gordon Smith.
Church	Southend-on-Sea	Mr. G. F. Bodley, R.A.
Market Hall	Oldham	Mr. E. Salomons.
Public Offices	Aldershot	Mr. F. T. Baggallay.
Town Hall	Stockport	Mr. T. E. Collcutt.
Town Hall	Deptford	Mr. John Belcher, A.R.A.
Public Baths	Handsworth	Mr. A. Hessell Tiltman.
Old Cliftonian Memorial	Clifton	Mr. R. Selden Wornum.

Copies of the Institute "Suggestions" have been sent to the promoters of the following competitions, together with letters asking for a copy of the conditions for the Library. In cases where it has been known that no assessor was to be appointed, a letter strongly urging the appointment has been addressed to the promoters. In other cases a protest against the conditions has been made by the authority of the Council:—

Board School, Loudon, N.B.
Board School, Newmilns, N.B.
Board School, Sheffield.
Municipal Buildings, Hereford.
Post Office, Middleton.
Constitutional Club, Hinckley.
Library, Hawick.
Masonic Hall, Egremont.
Widening Bridge, Hamilton, N.B.
Market Hall, Llanrwst.
Laying out Promenade, Penzance.
Public Baths, Chelsea.
Workmen's Dwellings, Dudley.
Cemetery Chapel, Bexhill-on-Sea.
Additions to Church, Sheffield.
Golf Club, Sandwich.
School, Guernsey.
Municipal Buildings and Fire Station, Walton-on-Thames.
Baths, Camberwell.
Chapel, Cardiff.
Hearts of Oak Office, London.
Board School, Berwick-on-Tweed.
Cottages, Roscommon.
Mission Hall, Middlesbrough.
Union Offices, Eccleshall.
Municipal Buildings, Stockport.
Board School, Oldham.

Isolation Hospital, Bexhill-on-Sea.
Board School, Blyth, Northumberland.
Isolation Hospital, Burslem.
Art Schools, Hull.
Conservative Club, Addingham.
Laboratories, Northampton.
Public Library, Kingston-on-Thames.
Dwellings for the Poor, Glasgow.
Guardians' Offices, Barnsley.
Schools, Par, Cornwall.
Baptist Church and Schools, Hebden Bridge.
Offices, &c., Dartmouth.
Infirmary, Leigh.
Board School, Kirkcaldy, N.B.
Pauper and Idiot Colony, Manchester.
Working Class Dwellings, Battersea.
Church, Leeds.
Yacht Club House, Lowestoft.
Municipal Buildings, Mountain Ash.
Board School, Southall.
Market, Oldham.
Children's Infirmary, Liverpool.
Public Offices, Aldershot.
Free Library, Bristol.
Working Class Dwellings, Liverpool.
Board School, Barnsley.
Public Offices, New Malden.
Town Hall, Harrogate.
Bridge, Newcastle-on-Tyne.
Infectious Diseases Hospital, Dunstable.
Ornamental Fountain, Montrose.
Cemetery, Audenshaw.
Workmen's Houses, Coleraine.
Memorial, Newcastle-on-Tyne.
Branch Library, Glasgow.
Police and Fire Brigade Buildings, Sunderland.
Hospital, Mexborough.
Free Library, Ilkeston.
Queen Victoria Memorial, York.
Clock Tower, Cambridge.
Nurses' Home, Stoke-on-Trent.
Generating Station Buildings, Stalybridge.
Cottage Hospital, Rhymney.

The Council have great pleasure in drawing attention to the prosperous financial condition of the Institute, as shown by the facts that the balance of Income over Expenditure for the year is £1,300, and that during the current year £1,000 has been invested in Indian Government Stock and £500 in Queensland Government Stock, thus bringing the total amount of the invested capital of the Institute up to £11,500. A statement of Income and Expenditure and Balance Sheet for the year ending 31st December 1901 and an estimate of the Income and Expenditure of the present year are appended [pp. 336–338].

REPORT OF THE ART STANDING COMMITTEE.

The Art Standing Committee have held three meetings during the Session.

Mr. Alfred Waterhouse, R.A., LL.D., was re-elected Chairman; and Mr. Macvicar Anderson, Vice-Chairman; and Messrs. E. W. Mountford and H. T. Hare were reappointed Hon. Secretaries. The Committee much regret that Mr. Waterhouse was subsequently compelled through ill-health to resign the Chairmanship, on which Mr. Macvicar Anderson was appointed Chairman, and Mr. T. E. Collcutt, Vice-Chairman.

London Bridge.—The Committee have pleasure in reporting that although the whole of their suggestions were not adopted, modifications in the design have been made on the lines they recommended.

Decoration of St. Paul's.—A letter was written to the Dean of St. Paul's asking that the designs of the proposed decoration of the drum of the dome might be publicly exhibited before the work was proceeded with. An acknowledgment of this letter was received, but it unfortunately contained no undertaking that there should be any exhibition of the designs.

Coney Drawings.—A recommendation was made that a collection of drawings by the late Mr. Coney should be purchased for the Library if possible.

Liverpool Cathedral.—The Competition for the proposed Cathedral was considered, together with the suggested site, and it was eventually decided to remit the matter to the Competitions Committee.

Maidstone Improvement.—A suggested street improvement involving the sacrifice of several interesting buildings was brought before the Committee, and two members were requested to visit Maidstone for the purpose of making an examination of the buildings in question. The matter is still under consideration.

REPORT OF THE LITERATURE STANDING COMMITTEE.

Since the election of the present Committee in June 1901, the Literature Committee have held nine meetings.

At the first meeting Mr. R. Phenè Spiers, F.S.A., was reappointed Chairman; Mr. H. Heathcote Statham, Vice-Chairman; and Messrs. Arthur S. Flower, M.A., F.S.A., and Leslie Waterhouse, M.A., Hon. Secretaries.

The following Sessional Papers, arranged for by the Committee, have been read:—"Mosaics," by Mr. R. Anning Bell, on 18th November 1901; "Baldassare Peruzzi," by Mr. F. W. Bedford [*F.*], on 17th February 1902; "The Planning of some Recent Library Buildings in the United States," by Mr. Sidney K. Greenslade [*A.*], on 17th March 1902; "Inlay and Marquetry," by Messrs. W. Aumonier and Heywood Sumner, on 7th April 1902. Papers have been arranged for subsequent dates: "Tradition in Architecture: its Function and Value," by Mr. Alex. N. Paterson [*A.*], M.A., on 21st April 1902; "The Plan of the House in Relation to the Garden," by Mr. T. H. Mawson, on 26th May.

The Committee regret that through ill-health Mr. Arthur Evans has been obliged to defer until next Session the reading of his Paper, arranged for 16th December 1901, upon "The Palace of Knossos, Crete."

The Committee desire gratefully to acknowledge their indebtedness to the authors of the various articles and reviews contributed to the JOURNAL, and to the publishers who have presented a number of interesting books to the Library during the past year.

"The Arthur Cates Donation" has enabled the Committee to add a number of valuable works to the Reference and Loan Library. These books have been accommodated in the original bookcase, which was generously presented to the Library by Mrs. Cates.

Much attention has been given to the development of the Loan Library, which has been considerably extended by the purchase of a number of works in duplicate.

The Librarian reports to the Committee as follows:—

During the twelve months ending on the 31st March of the present year 395 volumes and 38 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and transactions of Societies, and parts of works issued in serial form.

The number of works presented to the Reference Library was 288.

The works purchased comprise 110 volumes, out of which 56 volumes were added to the Loan Library.

The attendance of readers and borrowers during the year numbered 6,021 (last year, 5,401). The number of works issued on loan was 2,132 (last year, 1,793), 61 volumes having been issued to Fellows, 400 to Associates, 586 to Students, 783 to Probationers, 302 to Ticket Holders.

There was a small increase in the number of books issued through the post; but country members have not availed themselves as largely as might be expected of the privileges of the Loan Library.

The number of tickets issued for admission to the Library other than to members of the Institute or to Students or Probationers was 59 (last year 61).

The most important addition to the Library during the year has been the Arthur Cates Bequest, consisting of 212 volumes, a complete list of which appeared in the Supplement to the JOURNAL, Vol. VIII., No. 20. As the Library possessed many of the works included in the bequest the duplicate copies have, by the direction of the Literature Committee, been made available for use in the Loan Library.

The Institute collection of drawings has received an important addition in the presentation by the Colling Testimonial Committee (through the courtesy of Mr. Osborne Smith and Mr. Herbert Batsford) of five folio volumes of Mr. J. K. Colling's original drawings.

Donations of books have been received from Mr. H. Percy Adams, Monsieur L. Cloquet, Mr. H. Muthesius, Mr. A. Maryon Watson, Mr. B. Ingelow, Mr. H. Townley Sugden, Don E. S. Fatigati, Mr. R. Phenè Spiers, Monsieur M. F. de Dartein, and Mr. Glenn Brown.

Amongst the books acquired during the year, apart from the Cates Bequest, the following may be mentioned: Enlart's *Monuments religieux de l'architecture romane et de transition dans la région picarde*; Strack's *Baudenkmaeler* *des alten Rom*; Dutert's *Forum Romain*; W. H. St. John Hope's *Stall Plates of the Knights of the Order of the Garter*; Martha's *L'Art étrusque*, Förster's *Monuments d'architecture, de sculpture et de peinture de l'Allemagne*; His's *Desseins d'ornements de Hans Holbein*; Graham's *Roman Africa*; Kutschmann's *Meisterwerke Saracenisch-Normannischer Kunst in Sicilien und Unteritalien*; Bock's *Matériaux pour servir à l'archéologie de l'Egypte chrétienne*; and Souslow's *Monuments de l'ancienne architecture russe*.

Date	Day Attendances. 10 a.m. to 5 p.m.					Evening Attendances. 5 p.m. to 8 p.m.					
	Members.		Non-members.			Members.		Non-members.			
	Library.	Periodicals only.	Library.	Periodicals only.	Total.	Library.	Periodicals only.	Library.	Periodicals only.	Total.	Books issued on Loan.
1901.											
April	62	26	82	16	186	26	8	90	15	139	172
May	60	6	128	11	205	32	9	126	19	186	178
June	45	14	138	19	216	21	14	81	3	119	168
July	66	20	86	18	190	17	5	46	9	77	123
August . . .	Reference Library closed.					Reference Library closed.					17
September . . .	68	6	78	14	166	24	7	47	12	90	150
October . . .	85	13	154	15	267	36	8	130	7	181	250
November . . .	66	3	165	7	241	33	5	102	11	151	200
December . . .	55	10	92	10	167	26	6	112	7	151	185
1902.											
January . . .	86	8	152	5	251	44	8	123	12	187	240
February . . .	61	14	136	12	223	48	4	104	8	164	232
March . . .	69	14	113	8	204	46	5	71	6	128	217
TOTAL .	723	134	1324	135	2316	353	79	1032	109	1573	2132

REPORT OF THE SCIENCE STANDING COMMITTEE.

The Science Standing Committee report that they have held seven meetings since the publication of the last Annual Report, with an average attendance of eight members. Mr. Thomas Blashill was appointed Chairman; Mr. Lewis Angell, Vice-Chairman; and Mr. H. D. Searles-Wood and Mr. Max Clarke, Hon. Secretaries.

The results of the experiments for the purpose of ascertaining the strength of different kinds of brickwork will, it is hoped, shortly be issued in pamphlet form.

With a view to settling definitely the question ot standardising the size of bricks a conference between the Joint Committee of the Royal Institute of British Architects, the Institution of Civil Engineers, and the Clay Workers' Association was held on the 26th April 1901, and a resolution was passed that the subject should be referred back to a joint committee to formulate a scheme for carrying out the standardisation.

The Committee recommended the Council to communicate with the Corporation of the City of London, the London County Council, and the new Metropolitan Borough Councils, making suggestions for modifications in the administration of the various Acts of Parliament in relation to the construction of drains. Several of the Borough Councils have adopted the suggestion.

The supporting power of rocks and soils is still under inquiry. The Committee are collecting particulars from various sources.

The Committee have had under consideration the proposed standard sizes of steel sections.

The Committee's suggestions have been forwarded to the Standard Committee of the Institution of Civil Engineers.

The Committee have under consideration the subject of cement concrete in flats and floors, and are waiting the result of some further experiments to make a report on the behaviour of concrete.

The Committee have reported on the Draft By-Laws prepared by the London County Council as to depositing drainage plans.

REPORT OF THE PRACTICE STANDING COMMITTEE.

The usual monthly meetings of the Committee have been held, and three special meetings to complete the book on "Dilapidations." Mr. J. Douglass Mathews, Chairman, Mr. S. Flint Clarkson, Vice-Chairman, and Messrs. J. Osborne Smith and C. H. Brodie, Hon. Secretaries, were re-elected.

The Committee have been looking anxiously for some definite action following the report of the Joint Committee of this Institute and the Surveyors' Institution with reference to the proposed alterations in the law as regards "Ancient Lights"; and the more so by reason of some recent judgments. This being a matter in which this Committee has been and is especially interested, they hope that it is being pressed steadily forward.

As anticipated in our last Report, the new book on "Dilapidations" to be issued by the Institute was completed in proof at the close of last session. Copies were sent to the Council with a request that one should be sent to the Surveyors' Institution and another to the Institute Solicitors asking their kind perusal and suggestions for improvement. Valuable suggestions were received from each, and these are now receiving the careful attention of the Committee, who hope to complete the book by the end of this session. It is proposed to send a copy through our Solicitors to the Incorporated Law Society, asking for any suggestions they may wish to make as to the purely legal parts of it.

On the suggestion of the Council the Committee have proposed alterations in the Institute Form of Contract and Conditions to fit them for use when Quantities are to form a part of the Contract.

A letter from the Bristol Society of Architects suggesting a new clause in Contracts having reference to Prime Costs and Discounts was referred to the Committee by the Council. The Committee reported that the proposed Clause was not satisfactory and would introduce many difficulties, and that Clauses 27 and 28 of the Institute Conditions should be generally accepted.

The Committee's advice was sought by a member of the Institute as to the deduction of provisional amounts in a contract, and he was duly advised thereon.

The special attention of the Council has been called to the case of *Hobbs* v. *Turner*, tried in the Court of Appeal in January last. In giving judgment the Master of the Rolls said that in the absence of a special contract between the general contractor and sub-contractors the building owner and not the general contractor is responsible to the sub-contractors for payment, as under the general scope of a contract "privity of contract" exists between the building owner and all sub-contractors. The Committee have requested the Council to ascertain whether this decision will interfere with the Conditions of Contract as now published.

FINANCES.

The accounts of Ordinary Funds for 1901, prepared by Messrs. Saffery, Sons & Co., chartered accountants, and audited by Messrs W. Hilton Nash [*F.*] and Herbert A. Satchell [*A.*], the Hon. Auditors appointed at the Annual General Meeting of 1901, here follow:—

Draft Income and Expenditure Account of Ordinary Funds for the Year ended 31*st December* 1901.

Dr. Exclusive of Entrance Fees and Final Examination Fees; and Subscriptions received in advance for 1902. **Cr.**

EXPENDITURE.

To Ordinary Expenditure—	£	*s.*	*d.*	£	*s.*	*d.*
Rent	935	0	0			
Gas and Electric Lighting	79	3	9			
Coals	26	8	0			
				1040	11	9
Salaries				1477	10	0
General Printing, Stationery, Stamps, and Petty Expenses				502	9	5
Expenses of General Meetings, Exhibitions, &c.				255	5	9
Housekeeping (including Office Attendant)				150	2	3
Advertisements in Newspapers				49	19	1
Examination Expenses				395	12	6
General Repairs				39	14	6
Fire Insurance				20	9	6
Medals and other Prizes				166	5	0
Grants to Library				125	0	0
Grant to Architectural Association				100	0	0
The Journal—						
Reporting	59	17	9			
Printing and Binding	650	7	2			
Illustrations	120	9	8			
Addressing, Postage, and Carriage	237	12	6			
				1068	7	1
The Kalendar—						
Printing	138	0	9			
Postage and Carriage	28	1	3			
				166	2	0
Contributions to Allied Societies				278	8	0
Miscellaneous Expenses (including Dinner)				124	11	9
Accountants' and Legal Charges				15	4	2
Balance of income over expenditure				1330	7	7
				£7306	0	4

Saffery, Sons & Co.,
Chartered Accountants.

INCOME.

By Ordinary Income—	£	*s.*	*d.*	£	*s.*	*d.*
Subscriptions—						
589 Fellows at £4. 4*s.*	2473	16	0			
Ditto, Arrears	50	8	0			
954 Associates at £2. 2*s.*, and 2 on account £1. 19*s.*	2005	7	0			
Ditto, Arrears	89	1	0			
1 reinstated	4	4	0			
39 Hon. Associates at £2. 2*s.*	81	18	0			
Ditto, Arrears	6	6	0			
				4711	0	0
Dividends on Stocks and Shares—						
Architectural Union Co.	184	2	0			
Consols 2¾ per Cent.	52	0	6			
Tasmanian Government Stock 3½ per Cent.	62	15	8			
Dominion of Canada 3 per Cent.	34	1	0			
Queensland Government 3 per Cent.	15	16	4			
Interest on Deposit	33	10	3			
				382	5	9
Sale of Publications (other than Journal and Kalendar)				248	18	5
Use of Rooms—						
District Surveyors' Association	25	0	0			
Architectural Association	7	10	0			
R.I.B.A. Tenants	55	0	0			
				87	10	0
Examination Fees—						
Statutory	29	8	0			
Preliminary	688	16	0			
Intermediate	400	1	0			
Final (forfeited)	130	4	0			
				1248	9	0
Journal and Kalendar—						
Advertisements	530	0	0			
Sales	97	17	2			
				627	17	2
				£7306	0	4

Examined with the several vouchers and found to be correct. 19*th March* 1902.

(Signed) { W. Hilton Nash [*F.*].
Herbert A. Satchell [*A.*].

Balance Sheet of Ordinary Funds, 31*st December* 1901.

Dr. **Cr.**

LIABILITIES.

				£	*s.*	*d.*	£	*s.*	*d.*
To Sundry Creditors outstanding							153	15	2
To Examination Fees anticipatory of election							192	3	0
To Subscriptions for 1902 received in advance							102	18	0
To Building Fund							1000	0	0
To *Accumulated Fund*—									
Surplus of Liquid Assets over Liabilities as per last Balance Sheet				10093	2	8			
Add Entrance Fees received in 1901				296	2	0			
Arrears for 1901 (as per contra)				233	5	0			
				10622	9	8			
Less Arrears included in 1900 account since received or cancelled	£191	8	6						
Furniture bought	54	2	0						
				245	10	6			
				10376	19	2			
Less Amount transferred to Building Fund as per resolution of Council				1000	0	0			
				9376	19	2			
Add Balance of Income over Expenditure in 1901				1330	7	7			
							10707	6	9
							£12156	2	11

Saffery, Sons & Co.,
Chartered Accountants.

ASSETS.

	£	*s.*	*d.*	£	*s.*	*d*
By Cash at Bank				1723	14	10
By Investments*:—						
Architectural Union Co., 263 Shares	3643	1	0			
Consols 2¾ per Cent. £2000	2037	17	5			
Tasmanian Government 3½ per Cent. Stock £1896. 8*s.* 9*d.*	2050	0	0			
Dominion of Canada 3 per Cent. Registered Stock £1200	1219	11	0			
Queensland Government 3 per Cent. Stock £1119. 18*s.* 11*d.*	1050	0	0			
				10000	9	5
By Debtors				127	1	8
By Subscriptions in Arrear 1900	71	12	0			
Ditto 1901	233	5	0			
				304	17	0
				£12156	2	11

	£	*s.*	*d.*
* *Total Investments in* 1900	8950	9	5
Additions in 1901, *viz.*—			
£1119. 18*s.* 11*d.* *Queensland Government 3 per Cent. Stock, cost*	1050	0	0
Total Investments as above	10000	9	5

Examined with the several vouchers and found to be correct. 19th *March* 1902.

(Signed) { W. Hilton Nash [*F.*].
Herbert A. Satchell [*A.*].

The Revenue Account and Balance Sheet of Trust Funds for the year 1901, audited by Messrs. W. Hilton Nash [*F.*] and Herbert A. Satchell [*A.*], here follow:—

Revenue Account of Trust Funds for the Year ended 31*st December* 1901.

Dr.	£	s.	d.	Cr.	£	s.	d.
ASHPITEL PRIZE FUND :—							
To Cost of Ashpitel Prize	10	0	0	By Balance from last Account	22	12	0
To Cost of extra Prizes	10	10	0	By Dividend on 20 Shares, Architectural Union Co., at 14*s.* per share	14	0	0
To Balance carried forward	16	2	0				
	36	12	0		36	12	0
CHARITABLE FUND :—							
To Cash paid Architects' Benevolent Society	5	5	0	By Balance from last Account	1	2	6
To Balance carried forward	1	2	0	By Dividends on £200 10*s.* 2¾ per Cent. Consols	5	4	6
	6	7	0		6	7	0
ONALDSON TESTIMONIAL FUND :—							
To Cost of Medals	2	15	0	By Balance from last Account	0	11	5
To Balance carried forward	0	10	11	By Dividends on £72 L. & N.-W. Railway 4 per Cent. Preference Stock	2	14	6
	3	5	11		3	5	11
GODWIN BURSARY :—							
To Cash paid Bursar 1900, 1st instalment [S. K. Greenslade, *A.*]	20	0	0	By Balance from last Account	69	0	2
To Balance carried forward	87	18	10	By Dividends on £1030 Caledonian Railway 4 per Cent. Debenture Stock	38	18	8
	107	18	10		107	18	10
GRISSELL LEGACY :—							
To Cost of Medal	9	18	0	By Balance from last Account	16	12	11
To Balance carried forward	22	6	5	By Dividends on £300 Great Indian Peninsula Railway 5 per Cent. Stock	15	11	6
	32	4	5		32	4	5
LIBRARY FUND :—							
To Purchase of Books, Binding, &c.	156	15	3	By Balance from last Account	59	3	6
To Printing, Stationery, &c.	1	5	6	By Annual Donation from Mr. Sydney Smirke [*F.*]	5	0	0
To Petty Expenses	2	7	0	By Annual Grant from Ordinary Funds	100	0	0
To Balance carried forward	36	5	4	By Special Grant (Loan Collection)	25	0	0
				By Entrance Donation 1 Hon. Associate	2	2	0
				By Fines (Loan Library)	5	7	7
	196	13	1		196	13	1
OWEN JONES STUDENTSHIP :—							
To Cash paid Student 1899, 2nd instalment [J. Stewart]	50	0	0	By Balance from last Account	191	7	10
To Balance carried forward	243	19	2	By Dividends on £2128 Midland Railway 2½ per Cent. Debenture Stock	50	8	7
				By Dividends on £1100 Great Western Railway 5 per Cent. Consolidated Stock	52	2	9
	293	19	2		293	19	2
PUGIN MEMORIAL FUND :—							
To Cash paid Student 1900 [J. McLachlan]	40	0	0	By Balance from last Account	6	13	8
To Cost of Medal	1	9	6	By Dividends on £1070 L. & N.-W. Railway 4 per Cent. Preference Stock	40	11	5
To Balance carried forward	5	15	7				
	47	5	1		47	5	1
TITE LEGACY FUND :—							
To Cash paid Prizeman 1900, 2nd instalment [Percy E. Nobbs, *A.*]	10	0	0	By Balance from last Account	17	14	8
To Cost of extra Prizes	10	10	0	By Dividends on £1150 2¾ per Cent. Consols	29	18	2
To Balance carried forward	27	2	10				
	47	12	10		47	12	10
TRAVELLING FUND :—							
To purchase of £50 Madras Railway 4½ per cent. Stock at 121	61	6	0	By Balance from last Account	10	2	11
				By Dividends on £950 Madras Railway 4½ per Cent. Stock	40	8	8
				By Dividend on £50 Madras Railway 4½ per Cent. Stock	1	1	2
				By Balance carried forward	9	13	3
	61	6	0		61	6	0
CATES LEGACY :—							
To Balance carried forward	7	1	4	By Interest on Deposit (£1500)	7	1	4

Examined with the several vouchers and found to be correct. 19th *March* 1902.

(Signed) W. HILTON NASH [*F.*].
HERBERT A. SATCHELL [*A.*].

Balance Sheet of Trust Funds, 31st December 1901.

Dr.

	£	s.	d.	£	s.	d.
To ASHPITEL PRIZE FUND:—						
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share				280	0	0
Balance at credit of Revenue Account				16	2	0
To CHARITABLE FUND:—						
Capital—£200 10*s.* 2¾ per Cent. Consols				195	14	9
Balance at credit of Revenue Account				1	2	0
To DONALDSON TESTIMONIAL FUND:—						
Capital—£72 L. & N.-W. Railway 4 per Cent. Preference Stock				89	0	0
Balance at credit of Revenue Account				0	10	11
To GODWIN BURSARY FUND:—						
Capital—£1030 Caledonian Railway 4 per Cent. Debenture Stock				1344	13	6
Balance at credit of Revenue Account				87	18	10
To GRISSELL LEGACY FUND:—						
Capital—£300 Great Indian Peninsula Railway 5 per Cent. Guaranteed Stock				513	14	10
Balance at credit of Revenue Account				22	6	5
To LIBRARY FUND:—						
Balance at credit of Revenue Account				36	5	4
To OWEN JONES STUDENTSHIP:—						
Capital—£2128 Midland Railway 2½ per Cent. Debenture Stock	1773	0	0			
£1100 Great Western Railway 5 per Cent. Consolidated Stock	1900	12	0			
				3673	12	0
Balance at credit of Revenue Account				243	19	2
To PUGIN MEMORIAL FUND:—						
Capital—£1070 L. & N.-W. Railway 4 per Cent. Preference Stock				1342	12	6
Balance at credit of Revenue Account				5	15	7
To TITE LEGACY FUND:—						
Capital—£1150 2¾ per Cent. Consols				1109	1	6
Balance at credit of Revenue Account				27	2	10
To TRAVELLING FUND:—						
Capital—£1000 Madras Railway 4½ per Cent. Stock				1328	8	6
To CATES LEGACY:—						
Balance at credit of Revenue Account				7	1	4
				£10325	2	0

Cr.

	£	s.	d.
By Government and other Securities for total value of Trust Funds invested	9876	17	7
By Balance Travelling Fund	9	13	3
By Cash in hands of Bankers	438	11	2
	£10325	2	0

Examined with the several vouchers and found to be correct. *19th March* 1902.

(Signed) { W. HILTON NASH [*F.*].
HERBERT A. SATCHELL [*A.*].

SCHEDULE OF PROPERTY.

	£	s.	d.	£	s.	d.
Furniture as per last year's Schedule	2514	3	6			
Additions in 1901	54	2	0			
	2568	5	6			
Less Depreciation	64	5	6			
				2504	0	0
Printed Books				5300	0	0
Oil Paintings				3300	0	0
Lithographs, Prints, &c.				400	0	0
Water-colours				600	0	0
Models, Plaster Busts, &c.				140	0	0
Marble Busts				300	0	0
				£12544	0	0

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1902, exclusive of Entrance and Final Examination Fees.

Estimate of Income and Expenditure for Year ending 31st December 1902.

EXPENDITURE.	£	s.	d.
Rent, Lighting, and Warming	1065	0	0
Salaries	1515	0	0
General Printing, Stationery, Postage, and Petty Expenses	550	0	0
General Meetings, Exhibitions, &c.	255	0	0
Housekeeping (including Office Attendant)	155	0	0
Advertisements	55	0	0
Examination Expenses	420	0	0
General Repairs	100	0	0
Fire Insurance	25	0	0
Medals and other Prizes	160	0	0
Grant to Library	100	0	0
Grant to Architectural Association	100	0	0
JOURNAL	1100	0	0
KALENDAR	165	0	0
Contributions to Allied Societies	285	0	0
Miscellaneous Expenses	235	0	0
Legal and Accountants' Charges	75	0	0
Estimated Balance of Income over Expenditure	1150	0	0
	£7510	0	0

INCOME.	£	s.	d.
Subscriptions and Arrears	4800	0	0
Dividends on Stocks and Shares and Interest on Deposit Account	390	0	0
Sale of Publications (other than JOURNAL and KALENDAR)	260	0	0
JOURNAL and KALENDAR—			
Sales	100	0	0
Advertisements	560	0	0
Use of Rooms	85	0	0
Examination Fees—			
Statutory	25	0	0
Preliminary	700	0	0
Intermediate	450	0	0
Final (Extra Fees)	140	0	0
	£7510	0	0

REPORT OF THE HON. AUDITORS.

To the President and Council of the Royal Institute of British Architects,—

In issuing our report on the Accounts of the Royal Institute for the year 1901 we have the pleasure to state that the books have been well and accurately kept; and, having checked the vouchers and receipts with the books, we find all in good order.

With regard to the Revenue Account there appears to be a balance in hand of £1,330. 7*s.* 7*d.*, an amount which is partly accounted for by there having been no special expenditure during the year.

On the Capital Account the sum of £1,119. 18*s.* 11*d.* has been invested during the year, thus bringing the total amount of Investments up to £10,000. 9*s.* 5*d.*, which must be considered satisfactory. We are particularly glad to see that the sum of £1,000 has been set aside to start a Building Fund, and we hope this may be continued.

We regret to note that the class of Fellows, and, consequently, the Fellowship Subscriptions, have not increased in recent years in due proportion to the increase in the Associate class. While two years ago there were 620 Fellows, last year there were only 621, and in the current year there are only 617; so that during the last two years there has been a falling-off of three Fellows. During the same period the number of Associates has increased from 1,013 to 1,071.

The class of Honorary Associates has unfortunately also remained practically stationary during these years.

However, in conclusion, we must heartily congratulate the Institute on the state of its finances, and we trust that its present prosperity may continue.

26th April 1902. (Signed) { W. Hilton Nash.
Herbert A. Satchell.

DISCUSSION OF THE ANNUAL REPORT.

Mr. John Slater, B.A.Lond., *Vice-President*, in the Chair.

During the proceedings the Chairman announced that the President very much regretted that he was unable to be present at the Meeting.

The adoption of the Report was formally moved by the Chairman, and seconded by the Hon. Secretary.

Mr. Wm. Woodward [*A.*] commented upon the absence of the Auditors' Report from the document before them, and called the attention of the Council to the fact that the Companies Act of 1889 required that the Auditors' Report should be read at the annual general meeting of bodies within the Act.

At the request of the Chairman, the Secretary then read the Auditors' Report printed above.

Mr. Woodward, referring to the statement as to the number of subscribing members, said that last year the Council lamented the fact that there was only one extra Fellow, but now they had to account for the diminution of four Fellows, and that in all classes there was only a total addition of 37. What was the reason for that falling-off in the Fellowship, and for the general apathy which distinguished the Institute from all other kindred institutions? The meetings, for instance, of the Surveyors' Institution were characterised by an interest, by a full attendance of members, by a full attendance of Members of Council, which quite distinguished it from the Royal Institute. The speaker went on to remark upon the low estimation in which architecture and architects were held by the public. At last Saturday's Royal Academy Banquet, although the President of the Institute was there, and although the Institute numbered Royal Academicians amongst its members, not one single reference was made to architecture at that banquet. Again, take the announcement made that evening that the Royal Gold Medal was to be given to a distinguished architect. Instead of having the room full to recognise that fact, the Meeting bore a funereal aspect which he could not account for. Members seemed to shrink from coming to the meetings and giving each other the benefits of community of thought and even instances of trials and difficulties which occurred in their professional practice. There was a reference in the Report to Mr. Brydon's design for the new Government buildings; and on page 482 of the Journal for the 27th July 1901 he found these words: "The Council would most respectfully urge His Majesty's Government to appoint an architect of repute and in sympathy with the late J. M. Brydon's artistic ideals to carry out the approved design." Of course, that communication was made with the idea that the Government would ask the Council of the Institute to appoint a gentleman of repute who was in sympathy with Mr. Brydon's ideas. Although well intentioned on the part of the Council, to his mind it seemed an endeavour to force upon the Government someone who, in the opinion of the Council, would understand Mr. Brydon's intentions. He ventured to think that those designs were not advanced enough for any architect who would have been appointed by the Institute to be in sympathy with them any more than the gentlemen who had been nominated by the First Commissioner of Works. Those gentlemen, he believed, were capable of carrying out those designs with as much feeling, as much sympathy, and as much regard to accurate detail as any man whom the Council could have appointed. He should like to know the result of Mr. Leonard Stokes's communication to *The Times* calling attention to the alteration in Mr. Brydon's design by the omission of certain roofs and the prominence of an open balustrade, which he very properly thought would be detrimental to the architectural effect of the building. The reference in the Report to Liverpool Cathedral recalled to his mind that the Council had lately taken steps to prevent self-advertisement on the part of the members. He had himself complied with their request to remove a small board which he had put on a building in course of execution with his name attached to it. He removed the board because, on consideration, it did seem to him to lower the dignity of the profession. One saw, however, throughout the City of London, great boards with F.R.I.B.A. in large letters appended to names of members of the Institute, and he thought if one member responded to the invitation to take down such objectionable boards the Institute should make it perfectly clear—so as to be fair—that any member of the Institute who placed his name upon a board outside a building in course of erection should be considered guilty of unprofessional conduct. The Surveyors' Institution were now preparing some rules which would prevent a good deal of that sort of abuse among members of their body. The Council of the Institute had taken very proper steps to prevent self-advertisement and self-assertion, but he would call their attention to the matter of the Liverpool Cathedral. In *The British Architect* of last year there appeared a series of letters signed by prominent members of the Institute, advocating the claims of the President to the erection of the new cathedral upon a new site. Not only did they do that, but two or three of them urged that the fact that Mr. Emerson was the President of the Institute should be a sufficient recommendation to the Liverpool Committee to employ Mr. Emerson to act as architect. He found, too, that the Council itself made a communication to the Committee, which appeared in the Institute JOURNAL of 21st December 1901. This was an extract: "In the first place the Council of the Royal Institute regret that a competition for the Liverpool Cathedral having already taken place, and a design selected under competent advice, it should have been thought necessary to inaugurate another competition." If that was not veiled advertisement, he did not know what advertising was. Coming to the report of the Art Committee, he noted that that Committee had written to the Dean of St. Paul's urging the public exhibition of the designs for the decoration of the drum of the dome of that cathedral. He gathered that the Dean had not promised that those designs should be exhibited, and he was very glad that that was so, for he could conceive nothing more unfortunate than that a man like Sir William Richmond, who had carried out the finest mosaic decoration in this or any other country, should exhibit his cartoons to the criticism of gentlemen many of whom had the most absurdly restricted notions as to what constituted artistic decoration. He now came to another very important subject, and, although it was one personal to the President, he asked Mr. Emerson to believe that it was not personal to him as a gentleman, but only as regards its effect upon the interests of members of the Royal Institute. On page 57 of last year's Report [*Supplement*, 27th April 1901], he found these words: "The Council have the pleasure to record the fact that the President, Mr. William Emerson, is a member of the advisory sub-committee of the General Committee on the question of the National Memorial to Her late Majesty." The majority of the profession certainly supposed that when the President was appointed the welfare of the profession would be looked after; but what was the result? Five gentlemen only were selected by the Committee for the competition. As to the outcome of the competition he had nothing to say. The selection of Mr. Aston Webb's designs was a very wise one, for most certainly they were the best. Apart from that, however, he asked the Meeting whether the selection of five architects was a course which they could have anticipated from the President, who should look after the welfare of the general body of members.

The CHAIRMAN pointed out that Mr. Emerson was only one of the advisory committee.

Mr. WOODWARD: Yes; but did he exercise all the power that one member of the body could exercise in favour of the welfare of the Institute by advocating a more extended competition among members of the profession? That was the question he would like to put to the President. He was glad to see the reference to the prosperous financial condition of the Institute. He hoped that that prosperity would continue, and that they would be able to do what the Surveyors' Institution had done—build their own premises with their own funds, so that they might have an adequate place to meet in. Coming to the report of the Literature Committee, as regards the Library, he was glad to see that the improvement in the number of readers and borrowers was maintained, and that the work of the Librarian, the Library, and the interest taken by members in it, were entirely satisfactory. The Science Standing Committee's report might be described, he thought, as the narration of ideas exquisitely tentative with prospects of realisation profoundly remote. The report of the Practice Standing Committee brought to the front again their dear old friend, the Conditions of Contract. When should they finish the Conditions of Contract? He should like to ask Mr. Hall whether there was a prospect of a set of conditions being issued by the Institute which had been agreed to by the Association of Master Builders or the Builders' Institute, or in what position they stood with regard to those conditions. Coming to the finances, he found that in the Schedule of Property the oil-paintings had increased in value. In 1901 they were valued at £1,800, and in 1902 at £3,300, an increase of £1,500. Then there was another marvellous increase in the value of the marble busts. In 1901 they were worth £150, and in 1902 they are put down as worth £300. He should like to know what had brought about this increase in value.

The CHAIRMAN explained that the marble busts of Wren and Inigo Jones were only presented last year, and so were not included in the previous valuation. As to the increase in the valuation of the oil paintings, the portraits of Mr. Penrose and Professor Aitchison were now included in the Schedule for the first time, and the amount at which they were valued for the Institute was £750 each, which accounted for the £1,500 extra.

Mr. E. W. MOUNTFORD [*F.*] wished to explain that when the Art Committee suggested to the Dean of St. Paul's the desirability of exhibiting Sir William Richmond's designs for the decoration of the dome, they had in mind that the late Mr. Burges's design for the same decoration was exhibited, and the late Lord Leighton's design was also exhibited, and on each occasion the exhibition had the result of stopping the decoration. They were in hopes that something like that might happen again.

Mr. HERBERT A. SATCHELL [*A.*], referring to the ventilation of the meeting-room, said he had spoken last year of the serious risks to which the elder members were subjected in sitting in certain parts of the room at their meetings, and the President had promised to see what could be done He (Mr. Satchell) very appreciatively recognised that a good deal had been done in providing the curtains for the back windows; but, despite this, there were very few seats in the room absolutely free from draught. He had seen members change their seats two or three times in a meeting in order to get out of the draught, which absolutely chilled one's backbone. He commended the subject once more to the Council. Another matter referred to last year was the electric light. During the session now passing they had again endured the purgatory of the electric light blazing in their eyes after a tiring day. He hoped to hear from the Council that the installation of the improved lighting was progressing.

Mr. H. Hardwicke Langston [*A.*] said that he observed in last year's Report that Mr. Herbert Spurrell would represent the Institute at the meetings of the Royal Institute of Public Health held at Eastbourne in July of last year. He had looked through the Report but could find no mention of what Mr. Spurrell had done at those meetings, if he had done anything. What was his report? He thought they were entitled to know that, because he had contested the point as to whether Mr. Spurrell could represent the Institute, not having been appointed by the Institute but by the Council. He was, however, ruled out of order. Then he noticed that Mr. Slater and Mr. Thomas Blashill were to represent the Institute at the Sanitary Congress to be held at Manchester in September. He trusted that they would see in next year's Report some record of what their representatives had done there, and that they should not have a Report so empty of information as the present one seemed to be. The point referred to in the Report as one of the most interesting events of the year simply dealt with a matter of eating and drinking in connection with the dinner held in Glasgow. He should have looked for something more interesting than that in the annual Report of a Royal Institute. Then he noticed that a Joint Committee of the Royal Institute and the Surveyors' Institution had drafted a Bill to amend the law relating to easements of light. Could that Bill be seen? and had it been printed? Had any information been given as to what was included in that Bill?* It was simply a bare statement of fact; nothing was vouchsafed as to whether what was included in the Bill could be approved by the general body of the Institute. They were told again that the Institute were taking steps for the finding of a new site for their premises; and it was pointed out that their lease could be terminated in 1904 by giving certain notice. Looking through the financial statement it appeared that their shares in the Architectural Union Company approximated to about one-third of their assets. The 263 shares they held in that Company were stated to be worth £3,643 1*s.* They paid rent to the extent of nearly £1,000—£935—and it behoved them, if they wished to keep up the value of their property, to get rid gradually of these shares, or it would be an unfortunate thing that it should go out to the public that the Institute contemplated leaving these premises in 1904. The Institute was the chief tenant of the building, and when it left, although another tenant might be found to supply its place, it was a matter of doubt, and certainly the shares would not be of the same value as they were now. Then there was a curious difference in the value of the shares held by the Institute and the value of the shares held by the Ashpitel Prize Fund in the same Company. Twenty shares held by the Ashpitel Prize Fund were valued at £14 per share, but the Institute shares were not valued at £14 per share.

The Chairman explained that the amounts standing against the shares were the actual cost-price in each case. The prices varied at the time of the respective purchases.

Mr. Langston: But that is not stated in the balance sheet. It says "Assets," and it is either a statement of fact or it is not. Mr. Langston went on to refer to the advertisement in the *Supplement* headed "Papers from the Journal," and asked whether the authors of those Papers derived any profit from their sale.

The Secretary stated that they were overprints or reprints from the Journal; and that the Institute alone derived any profit from their sale.

Mr. E. A. Gruning [*F.*] said that as a member of the Joint Committee on the Law of Light, he had been requested to reply to the question as to what had been done with the Bill. The Bill was a very short one, and it had two or three main objects. One was to prevent the acquisition of easements of light by means of being able in future to give a statutory notice to anybody having lights who object to them. Owners of property would be able to look after their own interests, and prevent any ancient lights being acquired that had not been acquired up to the present time. The second was a simplification of the light and air disputes, by instituting what he might call a preliminary tribunal—each party would appoint a surveyor; a third surveyor or umpire would be appointed to go into the case and see whether *prima facie* there was any ground of complaint. The difference from the settlement in party-wall cases was that we should follow the precedent of the Factory Acts in having the decision made by the umpire alone, instead of requiring the signature of two out of three surveyors. There were many other provisions in the Act which were intended mainly to carry out those ideas. One especially was to limit the acquisition of special easements of light. There was a little difference between the Royal Institute and the Surveyors' Institution as to how the Bill should be worded. A meeting would take place at the end of this week, and he had no doubt the difference would be adjusted. The Act would be beneficial to the profession and beneficial to the community at large.

Mr. Woodward: I suppose there will be some limit of time to the extinction of the existing ancient lights?

Mr. Gruning: It is not proposed to extinguish the existing ones at all. It will be impossible to do so.

Mr. Woodward: At what period do you propose to extinguish them?—at the end of the current lease?

Mr. Gruning: No; to prevent the acquisition of future rights.

Mr. Woodward asked permission to refer to a notice in one of the Journals that the London County Council proposed an amendment to the Building Act *re* the Tribunal of Appeal. He trusted that there would be no diminution of the powers of the tribunal, but, on the contrary, that they would be increased, for any addition to the powers of the Council would be most detrimental to the profession.

Mr. Gruning said he had no official intimation as to what the proposed change of law was to be. He had reason to believe that the alteration was proposed on account of decisions which had not accorded with the views of some members of the London County Council. There was also a wish on the part of the County Council that the powers of the Tribunal should be enlarged so as to bring under their jurisdiction a great many of the cases that at present did not come within their cognisance.

Mr. Hall said that with regard to the first part of Mr. Gruning's statement he hoped that the Institute Council would take such action as might be necessary to prevent the curtailing of the independence of the Tribunal.

Mr. W. Hilton Nash [*F.*] referred to the extremely satisfactory circumstance that they had received £1,248 from examination fees. That was a large sum, and helped largely to swell the balance they were so happily able to declare. He thought that the Institute receiving such a large sum in fees, the great unpaid ought to be considered. The examiners, he believed, were all unpaid. He should like to hear from the Chairman whether the question had ever been considered whether the examiners should be paid or not. The Institute must also be complimented on the great success of the JOURNAL and the KALENDAR, which had produced £627 17*s.* 2*d.* He was sure that was greatly due to the energy of the Secretary and the Assistant Editor who conducted these publications.

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* The Report of the Joint Committee appeared in the last volume of the Journal, p. 107.—[Ed.]

The CHAIRMAN, replying to Mr. Woodward's criticism of the action of the Council in reference to Mr. Brydon's designs, said Mr. Woodward was mistaken in thinking that the Council advocated or wished to appoint any person to carry out Mr. Brydon's designs. They simply wished the Government to appoint someone, and suggested that they should do so. There was not the slightest suggestion that the Council wanted to make the appointment. With regard to the Queen Victoria Memorial—the President was not here to speak for himself—but from his (Mr. Slater's) point of view it would have been absolutely improper for him, as one single member of that Committee, to have given any information as to what took place at the meeting of that Committee. The action of that Committee was the action of the Committee as a whole. With reference to Mr. Langston's question as to the report which Mr. Spurrell sent of the meeting of the Institute of Public Health, he believed Mr. Spurrell attended, and reported that he attended, and that was all. Many public bodies held congresses—such as the Sanitary Institute, the Iron and Steel Institute, and others, and they generally asked other bodies to send a representative—as a matter of compliment. These representatives attend and take part in the proceedings, but it often happens that no particular action can be taken, and they simply attend as representing the body that appointed them. He should be sorry if Mr. Langston was led to suppose that at the Sanitary Congress in Manchester there would be any definite action taken by Mr. Blashill or himself. He had not the least idea what the proceedings would be, or what questions would be considered. He hoped to attend as representing the Institute, but it was quite possible that he and Mr. Blashill might only have to report that they attended. With regard to the Architectural Union shares, rightly or wrongly the accountant considered that the price to put down for the shares was what was paid for them. The shares varied in price from time to time; and it happened that the shares presented to the Institute as the Ashpitel Prize Fund cost £14 a share, and that those they purchased for the Institute did not cost so much, and therefore they were only put down at that figure. If the value of the shares rose so much the better for the Institute, but it certainly seemed safest to put down simply what they paid for them. No intimation had been received from the County Council as to any alteration in connection with the Tribunal of Appeal, but the Institute might certainly trust the Council to oppose to the utmost of its power any attempt to diminish the power and influence of that Tribunal. With regard to the payment of examiners, the question had been seriously considered on more than one occasion; and the whole body of examiners themselves agreed that they would rather do the work as honorary members than be paid the extraordinarily small sum which would accrue to each of them if even a considerable amount was allocated to the Board of Examiners. The whole matter of the lighting of the meeting-room had been gone into, and they were going to attempt to light the room entirely by reflected light from the ceiling, so that with the exception of the lights round the dome the whole of the lamps at present used would be in abeyance.

The motion for the adoption of the Report was then put and carried unanimously.

INCORP. 1837 1887

9, CONDUIT STREET, LONDON, W., 10*th May* 1902.

CHRONICLE.

The Royal Gold Medal 1902.

The Special General Meeting called pursuant to By-law 64 for the purpose of electing the Royal Gold Medallist for the current year was duly held on the 5th inst., when the Chairman, Mr. John Slater, moved, "That, subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of architecture be presented this year to Mr. Thomas Edward Collcutt for his work as an architect." The motion was seconded by Mr. E. A. Gruning [*F.*]. Mr. Wm. Woodward, speaking as an Associate, said that he felt sure he should have the concurrence of the majority of the Associates in strongly supporting the nomination of Mr. Collcutt as the proposed recipient of the Royal Gold Medal. Mr. Collcutt was an architect, using the term in its fullest sense. He was courteous, painstaking, had a thorough knowledge of business, and withal was thoroughly artistic. His works were distinguished by individuality of conception, and particularly by individuality of detail. Mr. Collcutt had succeeded in embellishing London and the country with buildings in which there was an absence of the peculiarities and eccentricities so common nowadays, and it was the greatest possible satisfaction to find that the Council had recognised his ability.—The resolution was carried by acclamation.

The Annual Elections: New Nominations.

The following members have been nominated to serve on the Council during the ensuing year of office, the nominations having been made by Fellows and Associates in accordance with By-law 30:—

As Member of Council: ALFRED WILLIAM STEPHENS CROSS, B.A.Cantab.—nominated by D. B. Niven, Herbert Wigglesworth, Sidney R. J. Smith, John Murray, *Fellows*; S. B. Russell, C. E. Hutchinson, Henry A. Saul, *Associates.*

As Associate Member of Council: SAMUEL BRIDGMAN RUSSELL—nominated by Alfred W. S. Cross, R. Stephen Ayling, Arnold Mitchell, Sidney

R. J. Smith, *Fellows*; Sydney W. Cranfield, Herbert W. Wills, E. Harding Payne, *Associates.*

The Coronation: The Institute Decorations.

The Chairman at the General Meeting last Monday announced that in view of the general decorations on the occasion of His Majesty's coronation the Council of the Institute had requested Mr. G. F. Bodley, R.A. [*F.*], to take in hand the decoration of the Institute premises.

New Contract Form with Quantities.

At the conclusion of the ordinary business of the Annual General Meeting last Monday, the Chairman brought forward the proposal [*see last Supplement*] to issue a new Contract Form for use where Quantities form part of the Contract. The proposed Form is practically identical with the existing Form, certain modifications in the latter having been made by the Practice Standing Committee to meet the requirements of the new Form. The material parts of the clauses affected are the following, the alterations and additions being printed in italics:—

1.—The works shall be carried out in accordance with the directions and to the reasonable satisfaction of the Architect, in accordance with the said Drawings and Specification *and Bills of Quantities*, and in accordance with such further drawings, details, and instructions in explanation of the same as may from time to time be given by the Architect. . . . The Contract Drawings and Specification *and the priced Bills of Quantities* shall remain in the custody of the Architect, and shall be produced by him at his Office as and when required by the Employer or by the Contractor.

3.—The Contractor shall on the signing hereof furnish the Architect with *the fully priced Bills of Quantities* for his use or that of the Surveyor appointed as in Clause 13 hereof, and for the purposes only of this *Contract*.

Clause 13.—The penultimate sentence to read:—

The variations shall be valued at the rates contained in the *priced Bills of Quantities*, or, where the same may not apply, at rates proportionate to the prices therein contained.

27.—The words "Prime Cost" or the initials P.C. applied in the Specification *and Bills of Quantities* to goods to be obtained and fixed by the Contractor, shall mean, unless otherwise stated in the Specification *or Bills of Quantities*, the sum paid to the merchant after deducting all trade discount for such goods in the ordinary course of delivery, but not deducting discount for cash, and such sum shall be exclusive of special carriage, the cost of fixing, and Contractor's profit.

28.—The commencement of the clause to read:—

The provisional sums mentioned in the Specification *and Bills of Quantities* for materials to be supplied or for work to be performed by special artists or tradesmen, &c., &c.

Slight changes are also required in the preamble and agreement clauses.

The Chairman, in introducing the subject, said that the Council had had many applications from members asking if a form of building-contract could not be framed suitable for use where quantities were made part of the contract. The matter was referred to the Practice Standing Committee, and they reported that there was no necessity to draw up any fresh conditions, but that the clauses of the existing form, with slight amendment, would be suitable for the new conditions. The amendments needed for the proposed new form were set out in the last *Supplement*. He would now formally move from the chair: "That the Institute sanction the issue of a Form of Agreement and Schedule of Conditions for Building-Contracts for use where Quantities form part of the contract."

Mr. Douglass Mathews [*F.*] said that the Practice Standing Committee had taken this matter into serious consideration, and that with the few amendments proposed they thought the desired end would be obtained. Without attacking the conditions all through and making a special thing of it, these few alterations, they thought, would entirely meet the matter. It seemed to him that they might be put for the ordinary form of conditions, striking out the amendments where not required, but that was a matter of detail.

Mr. C. H. Brodie [*A.*] said that, as one of the Hon. Secretaries of the Practice Committee, it had fallen to him to hunt up the report of the case of *Hobbs* v. *Turner*, a very important case upon which the Committee had reported to the Council. The case was fought upon the Institute form of contract, and he came to the Institute naturally expecting to find a report of it in the Library. He was disappointed. There was no report of the case in the Institute Journal, nor in the Library or any other part of the building. He had to go to the Law Institution, and by the courtesy of the librarian there he was able to turn up the case of *Hobbs* v. *Turner* as it was reported when it came before the Divisional Court. The case went to the Court of Appeal, and a report appeared in the following number of the Journal.* The report which was handed to him at the Law Institution was in the book which is known as the *Times Law Reports*. He glanced through the volume, and found that the cases reported were very largely what might be called practical, everyday matters. He went to a bookseller's shop in Chancery Lane, and found that they had a copy of the publication from the commencement, some 17 volumes, and the price of the whole was 16 guineas. It was, of course, a current publication, and the price per annum delivered was 25*s*. He therefore ventured to suggest to the Council that it might add to the usefulness of the Institute if members could come there and turn up the report of a case which had been fought on a form of contract issued by the Institute. He was told—and he regretted to report it to the meeting—that the Council could not see their way to the expenditure of 16 guineas and an annual expenditure of 25*s*. on the *Times Law Reports*!

Mr. Hilton Nash [*F.*] said he thoroughly endorsed Mr. Brodie's remarks. The Practice Committee, of which he was a member, often had letters from architects in the country asking for advice on matters of detail—perhaps a difficulty with a builder on a contract, or something of that kind. But they were unable to give any advice; they had no authority. It would be a good thing if a branch of the Practice Committee, or some committee specially formed, a sort of Advisory Committee, could be appointed to advise architects in town and country on these matters. It seemed to him that the country members paid their guineas and, as they said, got nothing for it. It was different with London members, who could come to the Institute and confer with their professional brethren, and get all the information they wanted. But with people in the country, a long way from any centre, it was very difficult for them to get advice. He thought if the Institute could assist them occasionally with advice, it would not only be a benefit to them, but a benefit also to the Institute.

Mr. Woodward regretted with Mr. Brodie that the Council did not see its way to make this expenditure of 16 guineas for the back numbers of the *Times Reports*. It would be within the recollection of some among the members of the Institute that some years ago, at the suggestion of the late Secretary, Mr. William H. White, and with the assistance of Mr. Cates, he had contributed to the JOURNAL of the Institute reports of all law cases which affected the interests of the profession. He extracted the reports from the *Times*—which they all knew contained excellent reports of nearly all cases, though probably not many reports affecting the interests of the profession—and he commented upon those reports with the information he happened to have bearing upon similar cases, dealing with them from a layman's point of view, which he thought would be of interest to general members. He made one or two reports upon some Building Act cases, and commented, it appeared, somewhat too freely upon the action of a district surveyor, with the result that an intimation was conveyed to him that the editorial part of the law cases connected with the JOURNAL had better be relinquished by him. Mr. Woodward went on to suggest that the reports of legal cases affecting the profession should be extracted from the *Times* and other journals and pasted in a book kept in the Library, so that every member could have access to them.* If the reports were given in the JOURNAL, they should be given immediately after they appear in the *Times*, and not weeks and weeks after.† He thought Mr. Brodie's was an excellent suggestion; and whether they thought it desirable or not to buy up the back numbers of the *Times Reports*, he trusted that, at any rate, they would start purchasing for the Institute the *Times Reports* as they appeared, and have them in the Library for access to all members.

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* 25th January 1902, p. 147.

The CHAIRMAN said that the reason why the Council decided not to buy the back numbers was a two-fold one. First, scarcely a five-hundredth part of the reports had any reference at all to architectural cases; secondly, they were so pressed for room in the Library that the Council hardly thought it advisable to accumulate a large number of volumes of which the proportion applicable to the Institute was so very small. If, however, it appeared to be the wish of members that these volumes should be taken in future, 25*s.* a year was a very small expenditure, and the Council would probably authorise it to be done. With reference to Mr. Hilton Nash's remarks regarding country members who required advice in professional matters, he should mention that there was already a Professional Questions Committee of Council, and Mr. Nash would be astonished at the enormous number of questions the Committee had to consider and give answers upon. He was bound to admit that it too frequently happened that they were consulted on matters upon which a man ought to go to his solicitor. In a large number of cases the Committee went into the matter carefully and gave advice to the persons who asked for it which they were often able to act upon, but the Council was not in any sense a body to whom legal questions should be referred, and they could not be expected to give advice on legal matters when it often happened that they had not got the whole case before them and might go quite wrong.

MR. A. SAXON SNELL [*F.*] said that before the resolution with regard to the form of building-contract was put to the meeting, he should like to make one or two suggestions. He did so with diffidence because he was one of those who did not use the Institute form of contract. In common with those who did, he had difficulties to contend with from time to time which had to be overcome. This was one. He ventured to suggest that the form of the inclusion as set forth in the first few lines would be a great mistake. The clause ran: "The works shall be carried out in accordance with the directions and to the reasonable satisfaction of the architect in accordance with the said drawings and specifications *and bills of quantities.*" Architects did not, as a rule, take out their own quantities. They were taken out by another man, who interpreted their drawings and specifications to the builder. Under the above clause the architect made himself responsible for that other man's interpretation. For the last fifteen years it had been a custom in his office to make the quantities part of the contract, but only by *implication*, so to speak; that is to say, they had clauses in the contract which referred to the bills of quantities, and which enabled them in case of doubt as to the intent and meaning of any part of the specification or drawings to consult the quantities. It seemed that in that the distinction lay—it was merely a reference to quantities. He would give an illustration. Many a time a builder had come to him and said: "Such and such a thing is not in the quantities; I want an order for it." He (Mr. Snell) replied: "No, I will not give you any order for it; but you may bring it up as a claim in due course; I will deal with the matter in my capacity as arbitrator, not as architect." His reason was this. He (Mr. Snell) did not profess to have such a knowledge of quantities as to enable him to say offhand whether a quantity surveyor had rightly interpreted the specification. Therefore he preferred to leave the matter so that he could discuss it in the presence of the quantity surveyor, either at once or when the accounts were made up, as a claim, and then he was enabled to say to the quantity surveyor: "Has he a right to make this claim? is your interpretation of my specification what I intended?" Then the matter could be dealt with fairly and with knowledge, otherwise one would have to be continually interpreting the quantities, which he thought was a dangerous thing for an architect to do.

MR. EDWIN T. HALL [*F.*] thought there was a great deal in some of these objections to the phraseology. He must apologise to the Meeting that he had not had time to look at the proposed alterations. But there was the difficulty Mr. Snell pointed out, and it was rather a serious one. It would be rather an embarrassing thing if a builder carried out something in accordance with the quantities which was different from the architect's intent and possibly from his specification, because he was rather afraid that the architect could not call upon him to undo that work without paying him for it. He thought it would be better for this document to go back for reconsideration. The intention of the Practice Committee probably was that the quantities as such should be adjustable at the end on the give-and take principle of paying the contractor for actually what he had done, and in that sense they formed the basis of the contract; but he did not think it was in this particular clause that the phraseology should go. The buildings, he thought, should be carried out in accordance with the specifications and drawings; but there might be some other clause which dealt with the question of quantity. There was this further difficulty. It had been decided by a Court that if a man agreed to carry out the works in accordance with the drawings, the specifications, and the quantities, although there might be nothing in the quantities representing something that was in the others, he was still bound to carry out the work specified and shown without being paid for it, and he did not think that was the intention of a form of contract which was to make the quantities part of the contract.

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* For the information of members it should be stated that the course suggested by Mr. Woodward is regularly carried out in the Library. The *Times* cuttings book contains the legal cases bearing on building and professional matters which have been reported in the *Times* for many years past.—[ED.]

† Exigencies of space compel occasional postponement of these reports. It should be noted, too, that there are two-, three-, and during the recess four-week intervals between the JOURNAL numbers. A case a few weeks late is none the less valuable for reference, the decision holding good for all similar issues until set aside by a Superior Court.—[ED.]

Mr. J. Douglass Mathews [*F.*] confessed that he did not follow the remarks of the last speakers, because it was left to his Committee to deal with the gross quantities as forming part of the contract, and therefore under those circumstances it appeared to them necessary that the bill of quantities should be incorporated. The use that they might be put to afterwards would rest with the architect, with the assistance of the quantity surveyor. What his Committee felt was this, that the surveyor would be an acknowledged party, not to the contract, but an acknowledged person in connection with the contract. Therefore those quantities, whether prepared by the architect or by the surveyor, would form, together with the drawings and specifications, the basis of the contract; and therefore, if the architect on examination found that there were certain things in the bill of quantities that were not in the specification, or put in a way that he did not desire, it would be for him to say, "I will not have this, that, or the other carried out." Then if the specification and bills of quantities differed, and the specification was worked to, it would be the duty of the quantity surveyor to say what was added and what was omitted. It was for that reason that this bill of quantities should form part of the contract. The builder would know exactly what he had to do. What he had done extra he would be paid for; but the whole essence seemed to be that the bills of quantities should be acknowledged as part and parcel of the contract in common with the specifications and drawings. He saw no other way of getting out of it except to embody what he thought was desired should be embodied.

Mr. Woodward said that, as he understood the proposition, these additions were meant to be substituted for or added to the present general conditions of contract when the quantities were made part of the contract.

The Chairman said that no doubt the better plan would be to print certain copies quite separately. The chances were that they should not require anything like the same number, where quantities were part of the contract, as they wanted of the others.

There being no further opposition to the proposal, the motion was put from the chair and carried—Mr. Hall and Mr. Saxon Snell dissenting.

Special Election to Fellowship.

At the meeting of the Council on the 5th inst., the following gentleman, being President of an Allied Society, and found by the Council to be eligible and qualified for membership under the Charter and By-laws, was, under the proviso to By-law 9, elected to the Fellowship of the Royal Institute—viz.

Horatio Kelson Bromhead, *President of the Glasgow Institute of Architects*, of 243, St. Vincent Street, Glasgow.

The Institute and the Telephone.

At the Institute Meeting last Monday Mr. H. D. Searles-Wood [*F.*] suggested that the Institute should be connected with the telephone, on the cheap postal rate of £5 for the telephone and 30*s.* for the messages. The expense would be comparatively trifling, as each member using the telephone would pay for his individual message, and the Institute would not be responsible for messages received from the members' offices to the Institute. It would be a great convenience to members attending the various committees to be able to communicate with their business premises. —The Secretary said that he had gone fully into the question, but he found that hardly anybody with whom he was usually in correspondence was on the telephone. Very few members of the Institute seemed to be in connection with it.—Mr. Woodward said he was one of the unfortunate individuals who were on the telephone, and he could only say that if they installed a telephone at the Institute he should move that the salary of the Secretary be increased!

The late Thomas Oliver [*F.*].

Mr. Thomas Oliver, who died on the 24th ult., aged seventy-eight, had been a Fellow of the Institute since 1866. He was head of the firm of Oliver, Leeson & Wood, of Newcastle-on-Tyne, and was one of the founders of the Northern Architectural Association, of which he was many years secretary and twice president. The *Builder* of the 3rd inst. has a long list of important works carried out by his firm in the north of England and elsewhere.

The Architectural Association Building Fund.

Under the heading, "The Training of Architects," the following letter addressed to the editor appeared in *The Times* of the 26th ult.:—

56, *Great Marlborough Street, W.*, 24*th April.*

Sir,—The Architectural Association of London has for fifty-four years devoted its energies to the education of architects, and it is now the principal architectural teaching body in the United Kingdom. The present membership is over 1,400, including most of the leading architects of the day.

For forty years instruction in its classes was given voluntarily by its members, but the work during that period had so increased that in the year 1891 reorganisation became necessary, and the school was remodelled under a salaried staff. Its curriculum now embraces all branches of study essential to architectural practice. Last session 230 individual students attended the various classes and studios.

The subjects treated in the Evening School of Design are set and voluntarily criticised by well-known London architects, while the advisory council of the day school includes almost all the architect members of the three Royal Academies of the United Kingdom. This educational work has quite outgrown the premises in which it is being carried on, and the future welfare of the Association depends upon its obtaining extended accommodation without delay.

About £20,000 is needed to provide the building, including equipment and fittings.

Owing to the greatly-increased interest now being taken in these subjects by the general public, the executive committee is encouraged to appeal to all those interested in architecture for contributions to enable them to carry out their project.

No art more tends to mark the progress and greatness of a nation, and no science does greater service towards securing the health and comfort of its people. The one great aim of the Architectural Association is that students may have the best possible training both in the art and science of architecture.

The Committee will gratefully acknowledge the receipt of any donations to the building fund, which should be forwarded to the secretary of the Architectural Association at No. 56, Great Marlborough Street, London, W.

We are, Sir, yours faithfully,
W. Howard Seth-Smith, *President Architectural Association.*
R. S. Balfour } *Hon. Secretaries.*
H. P. G. Maule }
R. Rowand Anderson, LL.D., H.R.S.A.
John Belcher, A.R.A.
Reginald Blomfield F.S.A.
G. F. Bodley, R.A.
Thomas Brock, R.A.
W. D. Caröe.
Basil Champneys.
Walter Crane.
Thomas Drew, Knt., *President Royal Hibernian Academy.*
W. Emerson, *President Royal Institute of British Architects.*
Ernest George.
T. G. Jackson, R.A.
E. W. Mountford.
Edward J. Poynter, Knt., K.B., *President Royal Academy.*
G. H. Fellowes Prynne.
W. B. Richmond, K.C.B., R.A.
Leonard Stokes.
L. Alma-Tadema, Knt., R.A.
Aston Webb, A.R.A.

MINUTES. XII.

SPECIAL GENERAL MEETING.

At a Special General Meeting held Monday, 5th May 1902, at 8 p.m., Mr. John Slater, *Vice-President*, in the Chair, with 16 Fellows (including 7 members of the Council) and 14 Associates (including 1 member of the Council), the Chairman having stated that the meeting was convened for the purpose of electing the Royal Gold Medallist for the current year, moved in accordance with notice that Mr. Thomas Edward Collcutt [*F.*] be elected for the honour. The motion having been seconded by Mr. E. A. Gruning [*F.*] and supported by Mr. Wm. Woodward [*A.*], it was unanimously

> Resolved, that subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of architecture be presented this year to Mr. Thomas Edward Collcutt, for his work as an architect.

This concluded the business of the Special Meeting.

ANNUAL GENERAL MEETING.

At the Sixty-eighth Annual General Meeting (being the Twelfth General Meeting of the Session), held at the conclusion of the Special General Meeting above recorded, and similarly constituted, the Minutes of the Meeting held 21st April 1902 were taken as read and signed as correct.

The Hon. Secretary announced the decease of Thomas Oliver, *Fellow*, of Newcastle, and it was resolved that a message of sympathy and condolence be sent from the Institute to his relatives.

The Report of the Council for the official year 1901–1902, a copy of which had been previously issued to every member resident in the United Kingdom, having been submitted and taken as read, its adoption was formally moved by the Chairman and seconded by the Hon. Secretary, and the Secretary having read the Report of the Hon. Auditors, a discussion ensued, at the conclusion of which the Meeting

> Resolved, *nem. con.*, that the Report of the Council for the official year 1901–1902 be approved and adopted.

The Chairman having announced that the list of attendances of members at the meetings of the Council and Standing Committees would be published in the next *Supplement* to the Journal, the Meeting authorised the Council to appoint Scrutineers to direct the election of the Council and Standing Committees for the ensuing year of office and report the result thereof to the Business General Meeting of the 9th June.

The thanks of the Institute were accorded to Messrs. W. Hilton Nash [*F.*] and H. A. Satchell [*A.*] for their services as Auditors of the past year's accounts, and Messrs. Louis Ambler [*F.*] and Hubert Springford East [*A.*] were nominated Auditors for the ensuing year of office.

A vote of thanks was passed to the Statutory Board of Examiners for their services in connection with the Surveying Examinations, and the following were appointed to form the Board for the ensuing year:—Messrs. Arthur Ashbridge, Thomas Blashill, Arthur Crow, Percivall Currey, F. W. H. Hunt, J. Douglass Mathews, R. P. Notley, Lacy W. Ridge, Professor T. Roger Smith, H. D. Searles-Wood, Benjamin Tabberer, and Thomas Henry Watson.

The following candidates for membership were elected by show of hands under By-law 9, viz.:—

As Fellows (2).

JAMES GLEN SIVEWRIGHT GIBSON [*A.* 1890].
HENRY WILLIAM CHATTERS, of 17, Regent Street (Cheltenham).

As Hon. Associate.

ALFRED ARTHUR HUDSON (Wendover, Bucks).

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election at the Business Meeting on the 9th June—viz.: As Fellows, Herbert Phillips Fletcher [*A.* 1895], Assoc. M.Inst.C.E., F.S.I., Cathcart William Methven, F.R.S.E., M.Inst.C.E. (Durban, Natal), Frank Worthington Simon (Edinburgh).

The Chairman formally moved the adoption of a Form of Contract prepared by the Practice Standing Committee for use where Quantities form part of the contract, and the motion having been seconded by Mr. E. A. Gruning [*F.*] and spoken to by several members, it was

> Resolved, against two dissentients, that the Institute do approve and sanction the issue of the Form of Agreement and Schedule of Conditions for Building Contracts as prepared by the Practice Standing Committee for use where Quantities form part of the contract.

The proceedings then closed, and the Meeting separated at 9.45 p.m.

REVIEWS.

SCHOOL ARCHITECTURE.

School Architecture. By Edmund M. Wheelwright. 4o. *Boston* 1901. *Price* 21*s. net.* [*B. T. Batsford,* 94, *High Holborn, W.C.*]

The appearance of Mr. Edmund M. Wheelwright's work upon School Architecture is most opportune, coming, as it does, at a time when the question of the necessity for further legislation for the bettering of the education of the children of England is receiving so much attention.

The work is beyond doubt a great advance upon any previous publication dealing with this important subject.

Mr. Wheelwright's method of treatment is both clear and simple; no important point, helpful to either the expert or student, appears to have been overlooked. The work, in short, deals fully with the various systems of school planning and educational training as adopted by the leading Governments of Europe and the United States.

The text, accompanied as it is throughout with numerous explanatory illustrations, carefully selected and excellently reproduced, is subdivided into a number of chapters, treating in the first instance of the requirements and chief features to be looked for in a well-planned school, leading thence to the elementary school system as practised in Europe and America, including a special short treatise upon English schools and the Board of Education's Code Rules, and closing with a comparison of the various methods described.

The origin and development of secondary education follows, then a description of the particular points to be remembered in the planning of manual training and mechanical art high schools and training colleges, the author finally dealing with the questions of heating, ventilation, and sanitation, closing his work with a detailed specification of a school meeting the requirements of the United States Government.

As the work of an American it is primarily intended to aid the architect and to interest the public of that land, but the very fact of this being the case, and its dealing so fully with the United States and Continental systems, places it at once in the front rank of works of reference which can and should be consulted by the architects and public bodies of this country.

It is to be regretted that Mr. Wheelwright, having illustrated his work so copiously, has not given his readers a greater number of illustrated examples of school furniture. The few drawings given are excellent, but quite insufficient.

The work is well printed, and is bound in a pleasing tone of green art canvas. The English right of sale is in the hands of Mr. B. T. Batsford, of Holborn, and the cost is 21*s.* net.

Arthur H. Ryan-Tenison.

WESTMINSTER ABBEY.

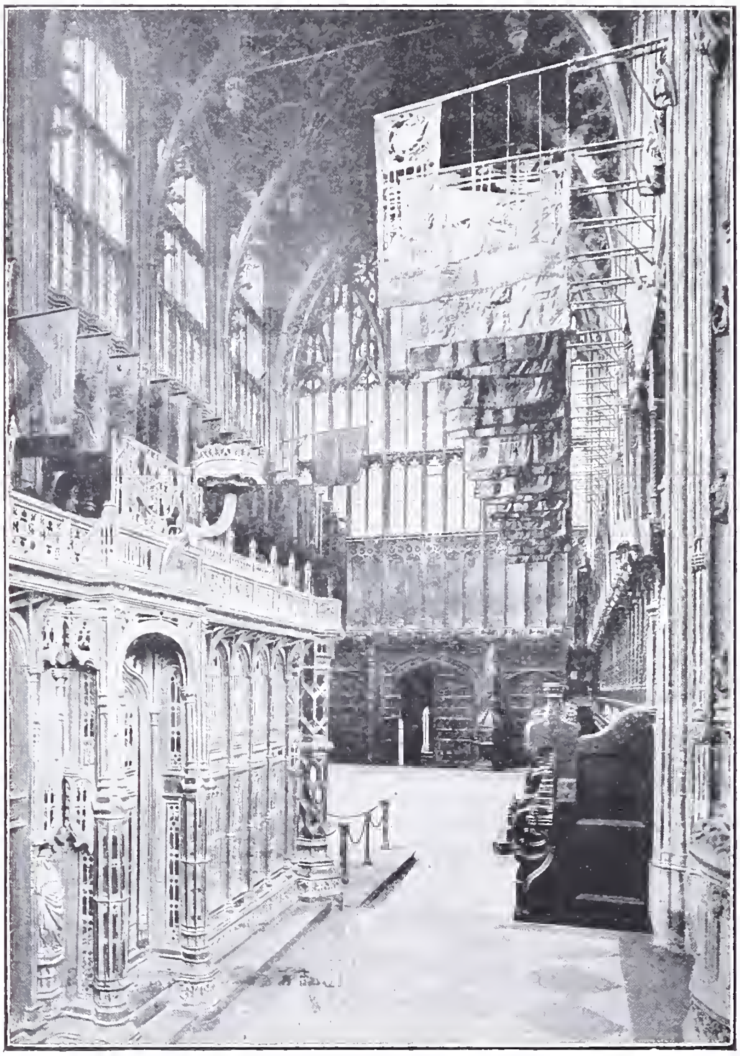
Westminster Abbey: a short history and description of the Church and Conventual buildings, with notes on the Monuments. By Charles Hiatt. (*Bell's Cathedral Series.*) 8o. *Lond.* 1902. *Price* 1*s.* 6*d.* [*Messrs. George Bell & Sons, York Street, Covent Garden.*]

The issue of this handbook, one of Bell's Cathedral Series, adds another to the list of their capitally written volumes. That the subject is a difficult one is self-evident, not only because of its antiquarian and historical associations, but also because it treats of a work of art of superlative merit. So much has been written already, and so great has been the research devoted to it, that the books enumerated in the short preface form but a part of the vast fund of information which is available, and has no doubt been drawn upon.

The story of the Abbey is very well told, and the descriptions of the exterior, interior, and conventual buildings judiciously arranged; the illustrations are well chosen, profuse, and very attractively reproduced. Criticisms, where indulged in, are made for the most part with discrimination, but occasionally it seems as if the author had been influenced by Mr. W. J. Loftie (acknowledgment to whom is frequently made), the value of whose writings lose so much by their invective and prejudice.

Referring to Sir Christopher Wren's work to the North Transept, recased by Sir Gilbert Scott and Mr. J. L. Pearson, the writer remarks that the former work, if somewhat incongruous, "had merit which we fail to discover in the structure which now takes its place"; a few pages further, speaking of Sir Christopher Wren and Hawksmoor's west front, he states, "that which is ancient has been so grievously altered, and that which originated in the eighteenth century is so manifestly incongruous"; and then on page 20 it is noted that repairs are going on here (October 1901). The author does not seem to be aware that these are somewhat of an extensive nature, have been in progress for a year or more, and practically amount to *restoring into more correct Gothic!* This, however, passes without comment: can it be that a *persona grata* has charge of this?

Among the illustrations are several from prints showing work which no longer exists, and these are most valuable as records and for comparison. Mr. Jewitt's print of the Chapter House when used as a Record Office, given in *Gleanings from Westminster Abbey*, has not been included, which is a pity. This shows it with its flat ceiling, tiers of presses, walled-up windows, and a stairway meandering along its walls, and if with this some account had been given of the discovery of the old features and statues, including the moulded ribs of the lost vaulting, used for walling up the window over the entrance, it would have helped to convey an idea of the patient care and labour devoted to it by Sir Gilbert Scott, whose own published account of this, and his discoveries in the Crypt below, in the outer and inner vestibules, and in the Confessor's work south of the latter, is most fascinating reading. His restoration of the Chapter House may well be considered a *magnum opus* few have ventured to attack.



S. B. Bolas & Co., Photo.

HENRY VII.'S CHAPEL, LOOKING WEST.

The wonderful imagery existing inside Henry VII.'s Chapel is alluded to in a quotation from Dean Stanley, who describes it as "tier upon tier on every side of the chapel, some retained from the ancient Lady Chapel, the greater part the work of his own age"; but "to the Virgin Mary, to whom the chapel was dedicated, he had a special devotion. Her in all his necessities he had made his continual refuge; and her figure accordingly looks down upon his grave from the east end between the apostolic patrons of the Abbey, Peter and Paul." This conveys a wrong impression, the fact being that Our Lord in Majesty is the central figure at the east end, the Virgin Mary being on the left, and the angel Gabriel on the right, and beyond to the left St. Paul and to the right St. Peter. It is rather curious to note that the order of these figures appears to have been brought about by the wish to include the Virgin Mary, and the difficulty of position of similar dignity has been got over by introducing the angel Gabriel. All the series of figures will well repay examination.

The quotation is also misleading, inasmuch as it views the architecture of the chapel as a "reminiscence of his (Henry VII.'s) exile, being learned in France by himself and his companion Fox." This, it is only fair to state, is commented upon three pages afterwards as requiring qualification, and Sir Gilbert Scott is cited to the effect "that this chapel is the richest specimen in existence of that peculiarly English style commonly known as the Tudor style, and of that very remarkable and admirable kind of vaulting known as fan tracery, which is also peculiar to England"—and we as architects know this to be the case.

Interest would have been added to the account of the chapel of St. Faith if an illustration had been given, and the remains of the altar and altar steps been pointed out. Also the bridge-way by means of which the monks passed during the night from the dormitory to the church, and the skilfully managed vaulting, two bays being sexpartite, an example of this mode as late as 1250. The only allusion to the vaulting is "through the gloom the grim corbels of the roof groining look very weird"!

On page 40 John Loughborough Pearson is described as a "pupil of Scott." This is not so; he was articled to Ignatius Bonomi of Durham.

Comments such as the following are out of place and only irritate: "A vile monument"; "an absurd tablet"; "a poor statue by Chantry"; "a good statue by Chantry"; "a beautiful work by Alfred Gilbert, R.A."

From the "Index to Tombs and Monuments" Robert Adam's gravestone in Poets' Corner is omitted—also in the text; and in the "General Index" we get Sir Christopher Wren and Nicholas Hawksmoor, but no Blore, Scott, or Pearson.

The plan of the Abbey and conventual buildings (partly conjectural) and the ground plan of the Abbey are very useful and distinct, and each has a scale.

W. Samuel Weatherley.

S. B. Bolas & Co., Photo.

ST. EDMUND'S CHAPEL, WESTMINSTER ABBEY.

THE BEGINNINGS OF GOTHIC ARCHITECTURE: NORMAN VAULTING IN ENGLAND.

A REPLY.

By John Bilson [*F.*], F.S.A.

IN his "Discours sur les origines de l'architecture gothique,"* delivered before the *Société des Antiquaires de Normandie* on 7th January 1901, M. le Comte de Lasteyrie has done me the honour of summarising and criticising the conclusions set forth in my Paper on Norman vaulting in England.† He finds it difficult to believe that the earliest ribbed vaults which I have described can possibly be as early as the dates to which I have attributed them. As the question is of considerable importance, I need scarcely apologise for adding a few words in reply to the general objections which M. de Lasteyrie urges against my conclusions, and to his special objections to the dates to which I have assigned the vaults of Durham Cathedral.

Dealing first with general considerations, I wish at the outset to express my entire agreement with M. de Lasteyrie when he says that he does not desire "contester un seul moment le rôle capital qu'ils (les architectes de l'Ile-de-France) ont joué dans la rapide transformation de l'architecture française au xii^{e} siècle" (p. 26). From the time when they began to develop the ribbed vault by associating with it the pointed arch (whether this date be placed at about 1125 or a little earlier) I freely admit that the Ile-de-France took the lead. The question is, however, what was the *rôle* played by the different provinces before that time? With the other provinces—with Anjou and Burgundy, for example—I am not now concerned. I confine myself here to Normandy and England.

I do not claim that the Normans invented Gothic architecture; indeed, in my Paper I expressly guarded myself against any such assumption. But my studies of the earliest ribbed vaults in England have led me to the conclusion that the Normans adopted and tentatively developed the ribbed vault in association with the semicircular arch alone; that these early attempts show, both in point of style and system, complete independence of any influence from the Ile-de-France; and that, judging from the evidence hitherto presented, the earliest of these Norman vaults are earlier in date than the period of the systematic development of the ribbed vault in the Ile-de-France.

I am, of course, aware that these conclusions are opposed to the doctrine accepted by the majority of French archæologists, which attributes the invention and development of the ribbed vault exclusively to the Ile-de-France.* It is significant that M. de Lasteyrie is inclined to believe that "il y a lieu d'amender un peu cette doctrine, et de faire, aux architectes de l'Ile-de-France, une part un peu moins exclusive dans la genèse de l'art gothique" (p. 26). He even goes so far as to admit the possibility that Gothic architecture might have appeared if the Ile-de-France had not existed (p. 27). If this view be admitted, surely there can be no objection, *a priori*, to the theory that ribbed vaults as early as, or even earlier than, those of the Ile-de-France may exist in other provinces.

What are the probabilities of the case, apart from any precise dates of the earliest ribbed vaults? I think it must be admitted that, so far as the buildings which have survived are concerned, the Romanesque architecture of Normandy and England at the end of the eleventh century was decidedly in advance of that of the Ile-de-France. In the construction of groined vaults over irregular spaces, what churches of the Ile-de-France show such ingenuity as is displayed in the crypts of Winchester and Worcester? Even for the earlier years of the twelfth century we should be led to the same conclusion, if we compare the great churches of Normandy and England with the nave of Saint-Germain des Prés, Paris, one of the richest abbeys in the north of France. Why, then, should we be surprised to find that Normandy started in the race before the Ile-de-France?

Nor need it astonish us if we should find innovations in English churches during the last years of the eleventh century rather than in those of Normandy itself; for it should be borne in mind that at this time Norman architecture was in a more flourishing state in England than in the duchy. Witness the numerous vast buildings commenced on this side of the Channel, while Normandy at this very time was suffering from severe social and political disorders under Duke Robert.* The energies of the Normans were naturally concentrated on the new and promising field of activity in England.

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* *Discours sur les origines de l'architecture gothique*, by M. le Comte de Lasteyrie, Membre de l'Institut, Directeur de la Société des Antiquaires de Normandie. Caen, 1901. The passages in question are, by the kind permission of M. de Lasteyrie, reprinted at the end of this reply.

† *The Beginnings of Gothic Architecture: Norman Vaulting in England*, in the Journal of the Royal Institute of British Architects, 3rd series, VI. 289 *et seq.*

* *L'Architecture religieuse dans l'ancien diocèse de Soissons au XI^{e} et au XII^{e} Siècle*, by Eugène Lefèvre-Pontalis, i. 96.

If I understand M. de Lasteyrie correctly, he considers that whatever vaults were built in a Norman or English church (it matters little which) at the end of the eleventh century must necessarily have been unribbed groined vaults and not ribbed vaults. I do not remember hearing this objection raised when M. Lefèvre-Pontalis attributed, without any documentary evidence whatever, the ribbed vaults of Rhuis and Auviller to the end of the eleventh century, to say nothing of the date which he first assigned to those of the ambulatory of Morienval. Are we then to assume that what was possible at that time in the Ile-de-France was impossible in Normandy or England? The presumption from the general character of the architecture of the two countries appears to me to be in the opposite direction.

Let us put aside, for a moment, any question of the date of the earliest ribbed vaults in England, and let us compare these vaults with those over the eastern bays of the nave aisles of Saint-Étienne, Beauvais, which M. Lefèvre-Pontalis attributes to about 1120.† In point of style and detail, and, what is much more important, in point of system, the English vaults represent a less advanced stage of development than those of Saint-Étienne. In all the earliest examples in England, while the transverse ribs are semicircular (or nearly so), the diagonal ribs are segments of circles struck from centres below the level of the springing, in order to avoid raising the keys of the diagonal ribs much above those of the transverse ribs. In the aisle vaults of Saint-Étienne the semicircular transverse ribs and arcade arches are considerably stilted, in order that the diagonals may be semicircular, or nearly so. But before this latter stage could be reached, an earlier experimental stage, such as that represented by the English vaults, must have been passed. However, so far as I am aware, we look in vain for examples of such an earlier stage in the vaults of the Ile-de-France. And it must be remembered that the English vaults in question are not merely isolated vaults under towers, or vaults over single bays, but in some cases extend over the whole length of the aisles of great churches of a length then unknown in Normandy or the Ile-de-France.

As Herr Dehio has said, the sexpartite vaults of the Caen group have an important bearing on this question of relative date.* M. de Lasteyrie quotes the general opinion that they are not earlier than the second half of the twelfth century, but he admits that M. Régnier was possibly right when he said, "Les voûtes normandes peuvent tout aussi bien remonter à 1130 qu'à 1160" (p. 28). The less developed form—a quadripartite vault divided by a secondary transverse rib carrying a wall—which is found in this group, is unknown in the Ile-de-France, and this form must have been preceded by experiments with the simple quadripartite vault. Herr Dehio's argument, that so much time must be allowed for the development of these different varieties of vaults that influence from the Ile-de-France cannot be admitted, leads also to the conclusion that it is not very bold to place the earliest of these experiments near the beginning of the twelfth century.

I come now to the special objections which M. de Lasteyrie raises to the dates which I have assigned to the vaults of the cathedral of Durham. But, before attempting to answer these objections, I must clear up two points upon which M. de Lasteyrie has misunderstood me. I have not said that the choir of Durham was finished before 1099 (p. 34). On the contrary, there is no evidence to show that it was completed before 1104, the date of the translation of the body of Saint Cuthbert into the new choir. It does not appear to me to be probable that the completion of the choir would exactly coincide in date with the accession of Bishop Ralph Flambard, and I think that this is not conveyed by the words of the chronicle. I take the meaning of the words *usque navem Rannulfus jam factum invenit* † to be that the works had then (1099) advanced *as far as* the nave, but this does not necessarily imply that the choir was then finished. What I have suggested is that the vaults of the choir were completed in 1104.

With regard to the east wall of the transept, it is evident that I have not made my meaning clear, for what I intended to convey is not open to the criticism which M. de Lasteyrie expresses on p. 37. My view is that the eastern wall of the transept (north and south), as far as the top of the triforium, was constructed to receive vaults, as in the choir, with which this side of the transept formed a continuous work; but that the idea of building a vault over the south transept was abandoned, and its clerestory was constructed to receive a wood ceiling.[*] This is not the case in the north transept, which was actually vaulted at once in accordance with the original plan. In the south transept a second change of intention followed, and the actual vault was constructed.

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* See *Ordericus Vitalis*, viii. ch. 15, end.

† *Op. cit.* i. 76.

* *Die Anfänge des gothischen Baustils*, by G. Dehio, 1896.

† In the passage quoted from Symeon's continuator (JOURNAL R.I.B.A., VI. 296).

M. de Lasteyrie believes that the vaults over the aisles of the choir of Durham were originally unribbed groined vaults, and that the diagonal ribs were subsequent additions (p. 35). He finds a proof of this in my figure 12,[†] which shows how the diagonal ribs at their springing cover part of the mouldings of the arches of the choir arcade. This bad fitting occurs only at one of the four angles of each bay, and it arises from a want of correspondence between the plan of the pier and the plan of the springing of the arches and vaults. At the other three angles of each bay the diagonal ribs at their springing clear themselves as well as they usually do in these early vaults.[‡] But examples of similar awkward fitting, more or less, are common enough in early ribbed vaults, as will be seen from the following instances from well-known churches in France itself :—

In the chancel of Bellefontaine the diagonal ribs at their springing mask part of the rolls of the chancel arch, and the rolls of the diagonals at their springing are partly intercepted by the chancel arch and by the wall. The diagonal ribs of the nave aisles also show an incomplete profile at their springing.

In the chancel of Marolles-en-Brie part of the roll of the diagonal rib is masked by the transverse rib at its springing.

In the ambulatory of Saint-Maclou, Pontoise, the diagonal ribs, at their springing above the piers of the apse, mask part of the roll, hollow, and quirk of the transverse rib; and on one side of the diagonal rib its hollow and small roll are intercepted by the transverse rib.

In the ambulatory of Saint-Denis, the diagonal rib at its springing covers part of the roll of the transverse rib. In the ambulatory of Saint-Germain des Prés, Paris, the profiles of the rolls of the diagonal and transverse ribs are incomplete at their springings.

In the nave aisles of Noyon Cathedral, above the minor piers, the hollows of the diagonal ribs are intercepted by the arcade arches.

In the choir aisles of Laon Cathedral, above the choir piers, the diagonal ribs mask a considerable part of the mouldings of the transverse ribs and arcade arches, and this is also the case to a less extent in the nave aisles.

This list might easily be considerably extended from other Transitional churches. If we find instances of such bad fitting in ribbed vaults the character of which is much more advanced than that of the Durham vaults, we cannot, I think, be surprised to find them in a pronounced form in the most primitive examples. Yet this is practically the only argument in favour of M. de Lasteyrie's theory that the aisles of the choir of Durham were originally covered with unribbed vaults. However, this theory is emphatically contradicted by the plan of the engaged shafts at the angle of the choir aisles and transept aisles,[*] for these shafts, from the floor to the top of their capitals, form part of the original construction of the aisle walls. The five ribs to be supported at this point are received, three by triple shafts of the same plan as elsewhere in the aisles, and two by a pair of unsymmetrical shafts. This plan can only be explained by the conclusion that the shafts were planned to receive the ribs of the existing vaults.

If the aisles of the choir and transept of Durham were originally covered with unribbed vaults, as M. de Lasteyrie believes, the existing diagonal ribs cannot have been added under the groins of these vaults, for a sufficient reason which I have already explained.[†] The original vaults must therefore have been demolished before the actual ribbed vaults could have been constructed. It is clear, too, that the existing vaults over the aisles of the choir, transept, and two eastern bays of the nave must, from the character of their details, be attributed to an earlier date than the vaults over the remaining bays of the aisles of the nave. In concluding that there is not at Durham a single ribbed vault which can be earlier than 1133 (p. 38), M. de Lasteyrie admits a possible exception in favour of the vaults of the aisles of the nave, apparently for the simple reason that ribbed vaults of the first thirty years of the twelfth century are to be found in the Ile-de-France. But if the other vaults at Durham are not earlier than 1133, neither are those of the nave aisles. One of the most important points to be observed in this discussion is that, whatever the true dates of the Durham vaults may be, their chronological sequence is clearly proved by their architectural character. This sequence, of course, includes the high vaults and the vault of the chapter-house. I have already sufficiently discussed the high vaults, and I have shown that the clerestories of the north transept and of the nave were built to receive the actual vaults.[‡] I need only remark here that, because the actual vaults were not originally provided for, either in the nave or in the clerestory of the south transept, this is no proof that the existing vaults were not built before 1133. We know that the building of the nave extended over a period of thirty-four years, and this is quite sufficient to allow ample time for changes of plan.

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[*] This is explained in my note in the JOURNAL R.I.B.A., VI. 347, which I believe was not before M. de Lasteyrie when his address was delivered.

[†] JOURNAL R.I.B.A., VI. 300.

[‡] *Ibid.*, fig. 10, p. 298.

[*] JOURNAL R.I.B.A., VI. fig. 13, p. 300.

[†] *Ibid.*, pp. 299, note ‡, and 304.

[‡] *Ibid.*, p. 348.

What then is the chronological sequence of these vaults as indicated by their character? Let me enumerate the vaults in question.

In the vaults over the aisles of the choir, of the transept (north and south), and of the two eastern bays of the nave—eighteen bays in all—the profiles of the transverse and diagonal ribs are similar to those of the arcades—simple mouldings, without zigzags.*

In the vaults of the remaining bays of the nave aisles—to the number of twelve bays, including those under the western towers—the transverse ribs show the same profile as those of the aisles of the choir and of the transept, while the diagonal ribs have a large roll flanked by zigzags. These zigzags are of precisely similar character to those of the nave arcades, and the change in the profile of the diagonals begins precisely at the same point (the second pier to the west of the crossing) where zigzags are substituted for plain mouldings in the arcades.†

In the high vault of the north transept there are no zigzags. The diagonals have the same profile as those of the aisles of the choir and transept—a large roll between two hollows—which is also the profile of the inner order of the transverse arches, the outer order being square, not moulded.‡

In the high vault of the south transept the profile of the diagonal ribs shows a large roll flanked by zigzags,§ which are as simple in character as the earliest zigzags in the church. The inner order of the transverse arches has a large roll between two hollows, and the outer order is decorated with zigzags of exactly the same detail as those in the nave arcades (west of the second pier west of the crossing).

In the high vault of the nave the profile of the diagonal ribs shows a large roll flanked by zigzags,‖ which are similar in character to those of the diagonal ribs of the south transept, but a little less simple. The outer order of the transverse arches has zigzags similar to those of diagonals, but with an additional hollow and fillet. In the clerestory of the nave (which, as I have shown, was built with the vault) the central arch of the triple arcade in each bay is decorated with a zigzag of which the outer face is like the zigzag on the diagonal ribs of the nave aisle vaults, and the intrados like that on the diagonal ribs of the high vault of the south transept.

Finally, in the chapter-house (completed under Geoffrey Rufus, 1133–1140) the profile of the transverse ribs of the vault shows a large roll flanked by a flat face, a smaller roll, and a hollow; and that of the diagonal ribs shows a pointed roll between zigzags of a pattern slightly more elaborate than any of those noticed above.

The chronological sequence, then, of these vaults is clearly indicated by the characteristics which I have described. If we are to accept M. de Lasteyrie's theory that these vaults were reconstructed after the nave was finished in 1133, a difficulty presents itself which seems to me to be quite insuperable. We should be forced to conclude that, in reconstructing the aisle vaults, the builders purposely imitated, in the first case, the simple profiles of the arcades which adjoin them, continuing these profiles into the aisles of the nave to the point where zigzags are introduced into the mouldings of the great arcades, and that at this point they began to ornament the diagonal ribs with zigzags of the same character as those of the arcades; that they used their most primitive profiles in the high vault of the north transept, progressing gradually in those of the south transept and of the nave to the least primitive of all in the vault of the chapter-house. This is an impossible view, for it assumes a procedure which is directly contrary to the practice of mediæval builders, especially in the mid-twelfth century, when architecture was progressing with such rapid strides. M. de Lasteyrie does not suggest any date for the reconstructions which he assumes. If any of them be placed in the episcopate of Geoffrey Rufus (1133–1140), then it must be explained why all show work of less advanced character than the vault of the chapter-house. Or, if this too was a later reconstruction, the difficulty becomes greater rather than less, for we possess a complete series of the building works of Bishop Pudsey, extending over the whole period of his episcopacy from 1153 to 1195,* and all these are much more advanced in their character than even the vault of the chapter-house. I am convinced, then, that the existence of these vaults can only be satisfactorily explained by placing them at or near the dates which I have assigned to them in my Paper.

May I, in conclusion, venture to express the hope that some of the French archæologists who

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* See fig. 10, p. 298, JOURNAL R.I.B.A., Vol. VI. The profiles of the two eastern arches of the nave arcades are the same as those of the choir and east side of the transept

† The arch of the triforium of the eastern half-bay of the nave, which belongs to the first section of the works, shows no zigzags. The arches of the remaining bays of the nave triforium are decorated with zigzags of precisely the same pattern as those of the nave arcades. It is worth notice also that, starting from the third pier west of the crossing, the width of each half-bay of the nave is increased by 2 ft. 1 in. to 2 ft. 3 in.

‡ See fig. 25, p. 313.

§ See fig. 30, p. 346.

‖ See fig. 26, p. 315, and fig. 31, p. 347.

* See *Bishop Pudsey's Buildings in the Present County of Durham*, by W. H. D. Longstaffe, in the *Transactions of the Architectural and Archæological Society of Durham and Northumberland*, vol. i. (1862), p. 1.

disagree with my conclusions may be induced to investigate these questions in the buildings themselves, not only at Durham, but also in other English churches which contain early examples of the ribbed vault?

EXTRACT FROM "DISCOURS SUR LES ORIGINES DE L'ARCHITECTURE GOTHIQUE."

By M. le Comte de Lasteyrie.

p. 25 Les causes qui ont donné naissance à l'art gothique et qui ont présidé à son prodigieux épanouissement ne peuvent donc laisser place à aucun doute.

p. 26 Je serai moins affirmatif en ce qui concerne une autre question que la grande majorité des archéologues français semble aujourd'hui considérer comme pleinement résolue, et sur laquelle je ne crois pas que le dernier mot soit dit encore.

Où faut-il chercher le berceau de l'architecture gothique?

Tout le monde, à l'étranger comme chez nous, est d'accord pour en faire honneur à la France; mais à quelle partie de notre pays appartient-il plus spécialement? Voici le point délicat.

La plupart de nos savants sont d'accord pour affirmer qu'elle est née dans la partie septentrionale de l'Ile-de-France, dans la région comprise entre les rives de la Seine, de l'Oise et de l'Aisne. C'était l'opinion de Quicherat et de Viollet-le-Duc, et j'ai quelque peu contribué à la répandre pour ma part, car je l'ai professée longtemps, et, pour l'étayer d'arguments solides, j'ai inspiré à certains de mes élèves, devenus aujourd'hui des maîtres, des travaux qui leur ont valu une réputation méritée.

Plus je vais cependant, et plus je suis convaincu qu'il y a lieu d'amender un peu cette doctrine, et de faire, aux architectes de l'Ile-de-France, une part un peu moins exclusive dans la genèse de l'art gothique.

Ce n'est pas, bien entendu, que je veuille contester un seul moment le rôle capital qu'ils ont joué dans la rapide transformation de l'architecture française au XII^{e} siècle. Mais j'ai de puissantes raisons de croire que ce mouvement irrésistible, qui entraînait les constructeurs français dans des voies nouvelles, p. 27 n'était pas limité à l'Ile-de-France. D'autres provinces y ont participé et, le jour où de dignes émules de mon ami Lefèvre-Pontalis leur auront consacré des monographies archéologiques, aussi complètes que celle dont il a gratifié le Soissonnais, on aura la preuve, je n'en doute pas, que si, vers le début du XII^{e} siècle, quelque méchante fée avait pu d'un coup de baguette faire disparaître toute l'Ile-de-France, l'architecture gothique n'en serait pas moins née. Sans doute, elle aurait affecté des caractères un peu différents de ceux qu'elle a revêtus, son evolution eût peut-être été moins rapide et son succès moins général; mais comment mettre en doute son prochain avènement, quand on voit, dès le début du XII^{e} siècle, certains édifices de l'Anjou, et surtout de la Bourgogne, contenir déjà en germe les éléments essentiels de l'architecture gothique?

Et la Normandie même, est-il bien sûr qu'on lui attribue toute la part qui lui est due dans la genèse de l'art gothique? C'est une question qui mérite d'attirer votre attention, Messieurs, car elle a été l'objet, dans des travaux récents, d'appréciations tout à fait contradictoires.

Depuis que Georges Bouet et Ruprich-Robert ont démontré que les belles voûtes de Saint-Étienne de Caen sont une addition à la construction première, depuis qu'un examen plus minutieux des monuments a fait reconnaître que les grandes églises romanes de Normandie avaient été bâties primitivement sans voûte sur la nef, et que celles qu'on y voit aujourd'hui ont été ajoutées après coup, on a p. 28 conclu un peu vite que les architectes normands n'avaient en rien contribué à la formation de l'architecture gothique. Mais il y a là une affirmation dont l'exactitude, je suis obligé de l'avouer, n'est pas démontrée, car, en réalité, nous ne savons pas à quelle époque remontent les remaniements que nous constatons à Saint-Étienne de Caen, à Boscherville, à Lessay, etc. L'opinion commune est qu'ils ne sont pas antérieurs à la seconde moitié du XII^{e} siècle. Je suis très disposé à le croire, je l'ai souvent dit dans mes leçons, et mon ami Lefèvre-Pontalis l'a répété dans son beau livre, mais personne n'en a encore administré la preuve tout à fait certaine, et je suis obligé d'avouer, Messieurs, qu'un de vos compatriotes, M. Louis Régnier, était peut-être dans le vrai quand il a dit: "Les voûtes normandes peuvent tout aussi bien remonter à 1130 qu'à 1160; leur date exacte est une problème dont nous n'avons pas encore la solution." [*]

Et la question que je pose ici, un autre archéologue de grande valeur, mon très savant ami, M. Anthyme Saint-Paul, l'a posée avant moi en termes que vous me permettrez de rappeler:

"L'heure me semble venue," dit-il, "de nous demander s'il faut, oui ou non, associer la Normandie au mouvement transitionnel. . . . La Normandie a mis autant d'ardeur à adopter la nervure, que le bassin de l'Oise à s'emparer de l'arc brisé. . . . p. 29 Enclin à multiplier les lignes dans les archivoltes, les jambages, les piliers, le Normand ne pouvait manquer de les ramifier dans les voûtes. De là les voûtes à huit divisions sur plan carré, comme celles de Saint-Romain (à Rouen): de là les voûtes sexpartites, comme celles de Caen et de Creully, et parmi ces voûtes, j'en suis convaincu, il en est d'antérieures à Saint-Denis ou tout au moins contemporaines. A plus forte raison seraient antérieures ou contemporaines les voûtes à croisées simples, comme celles de Montivilliers (croisillons), de Fontaine-Henry, de Lessay." [†]

J'ai peine à croire, je le déclare, qu'aucun des exemples invoqués ici par M. Anthyme Saint-Paul puisse être antérieur à 1140. Mais, dans l'état actuel de la science, il est difficile de l'affirmer; bien plus, depuis que mon savant ami a écrit ces lignes, il a pu trouver des arguments nouveaux dans un mémoire très documenté et très habilement présenté qu'un archéologue anglais, plein de talent, a consacré aux origines de l'architecture gothique et aux plus anciens exemples de croisées d'ogives dont les églises anglaises de style normand offrent actuellement des exemples. [‡]

Le mémoire de M. Bilson est assez important et encore assez peu connu en France pour que vous me p. 30 permettiez de vous en présenter un résumé rapide. Il tend à prouver qu'il existe dans un certain nombre d'édifices normands d'Angleterre des voûtes sur croisées d'ogives remontant non seulement au début du XIIe siècle, mais peut-être même aux trois ou quatre dernières années du XIe. Elles seraient donc aussi anciennes, peut-être même davantage, que les plus anciennes voûtes d'ogives que l'on ait encore signalées dans l'Ile-de-France. Ces voûtes anglo-normandes se rencontreraient non seulement sur les bas-côtés, mais même sur le chœur ou sur la nef d'édifices achevés avant 1135.

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[*] *Les origines de l'architecture gothique*, dans les *Mém. de la Soc. hist. et archéol. de Pontoise*, t. XVI. p. 119–120.

[†] *La transition*, p. 27–28 (extr. de la *Revue de l'Art chrétien* de 1895).

[‡] J. Bilson, *The Beginnings of Gothic Architecture*, dans le *Journal of the Royal Institute of British Architects*, 3^{e} série, t. VI. p. 259 et s.

Voilà qui est de nature à faire tressaillir tous les archéologues de Normandie: car, si leurs ancêtres ont introduit d'aussi bonne heure les ogives en Angleterre, il n'est pas possible qu'ils n'en aient pas élevé à la même époque dans leur province d'origine, il n'est pas probable que toutes aient disparu, il faut donc vous mettre en chasse, Messieurs, pour les retrouver: il faut explorer méthodiquement toutes vos églises, scruter à fond tous les textes qui s'y rapportent, car enfin nous pouvons avoir péché par excès de critique, nous pouvons avoir rajeuni ces monuments outre mesure.

Aucune question ne mérite un examen plus approfondi, car s'il est prouvé que, dès l'aurore du XIIe siècle, les architectes normands ont su jeter des croisées d'ogives au-dessus du vaisseau central de leurs églises, c'est en Normandie qu'il faut placer le berceau de l'architecture gothique, et non dans l'Ile-de-France: car à cette date on n'en était pas p. 31 là sur les bords de la Seine, de l'Oise et de l'Aisne, on ignorait encore tout le parti qu'on pouvait tirer de la croisée d'ogives, on en faisait de timides essais sur les collatéraux, sur le chœur des petites églises rurales, on n'osait pas en jeter sur la nef des grandes églises.

Si donc les architectes normands ont osé le faire avant 1130, qu'on en trouve la preuve en Angleterre ou dans la Normandie continentale, peu importe, c'est un nouveau titre d'honneur pour votre province. Reprenez donc, Messieurs, l'étude de vos églises, mettez-vous en quête des vieilles ogives, tâchez d'en découvrir les dates, et si elles confirment ce que je viens de dire, faites-nous le vite savoir pour la plus grande gloire de la Normandie!

Je ne voudrais pas, Messieurs, refroidir une ardeur qui se manifeste par d'aussi chaleureux applaudissements, mais avant de vous laisser partir en campagne, je dois loyalement vous avertir que si votre chasse aux ogives était un peu fructueuse, je ne serais pas le dernier à m'en réjouir, mais je serais le premier à m'en étonner.

Le motif qui me fait parler ainsi c'est qu'en Angleterre, où M. Bilson a déployé tant d'ingéniosité dans ses recherches, les résultats qu'il a obtenus ne me paraissent pas être aussi probants qu'il l'imagine.

Je ne voudrais pas entamer ici une discussion technique qui serait longue et qui paraîtrait bien aride aux dames qui m'écoutent. Je n'oserais d'ailleurs discuter publiquement les théories d'un auteur aussi compétent avant d'avoir pu aller les contrôler sur place. Mais je me crois autorisé à p. 32 faire certaines réserves et à manifester la crainte que M. Bilson ne se soit laissé entraîner par l'intérêt de sa thèse et n'ait vieilli à l'excès la plupart des édifices dont il parle.

Voici la cathédrale de Durham, par exemple, qui est comme la pierre angulaire de tout son système. Elle est entièrement voûtée d'ogives, et M. Bilson assure que ses voûtes n'ont jamais été refaites.* Or, des textes très positifs nous renseignent sur les diverses étapes de la construction, et si on doit les appliquer à l'état actuel du monument, comme le soutient M. Bilson, il est certain que les architectes normands avaient alors une avance marquée sur leurs confrères de l'Europe entière et que les architectes de l'Ile-de-France, en particulier, doivent saluer en eux leurs précurseurs, car aucun n'aurait osé à pareille date jeter une voûte d'ogives en travers de la nef d'une cathédrale.

Les dates exactes des voûtes de l'église de Durham ont donc une importance capitale. M. Bilson se flatte d'avoir, pour les déterminer, des témoignages contemporains et par conséquent irréfutables.*

Ils nous apprennent que la première pierre de l'édifice fut posée par l'évêque Guillaume de Saint-Calais, le 11 août 1093.

p. 33 Nous n'avons pas d'indication formelle sur l'état d'avancement des travaux lorsque Guillaume mourut en 1096. Nous savons seulement qu'il s'était mis d'accord avec les moines appelés à desservir le siège épiscopal pour bâtir l'église à ses frais, pendant que les moines prenaient à leur charge la construction du monastère qui devait les abriter. Mais à sa mort cette convention ne fut plus observée et les moines, abandonnant la construction des lieux réguliers, mirent toutes leurs ressources à continuer la cathédrale. Ils travaillèrent si bien qu'en 1099, lorsque Raoul Flambard monta sur le siège de Durham, on était à la nef. Le nouvel évêque poursuivit l'œuvre, mais avec des alternatives d'ardeur et de relâchement, suivant que les oblations des fidèles étaient plus ou moins abondantes. A la fin de son épiscopat, en 1128, la nef était élevée jusqu'à la naissance des voûtes. Celles-ci furent bâties par les soins des moines p. 34 pendant la vacance du siège qui dura jusqu'à l'avènement de Geoffroy Le Roux, en 1133.

La chronique, en nous apprenant que le chœur de la cathédrale de Durham fut commencé par Guillaume de Saint-Calais et terminé avant 1099,† ne nous dit pas s'il était voûté; mais s'il ne l'était pas, il le fut bientôt, car on procéda en 1104 à la translation solennelle des reliques de saint Cuthbert dans un monument situé à l'extrémité orientale de l'église, c'est-à-dire au fond du chœur, et Guillaume de Malmesbury nous raconte un fait miraculeux qui se passa à cette occasion. On était embarrassé pour mettre les reliques en place, car le chœur était encore encombré par les cintres de la voûte que l'on venait d'achever.‡ Mais, dans la nuit qui précéda la cérémonie, saint Cuthbert eut l'obligeance de venir les enlever lui-même.§

p. 35 L'église cathédrale de Durham était donc entièrement voûtée en 1133. M. Bilson cherche à démontrer que les voûtes étaient sur croisées d'ogives et que, sauf sur le chœur, c'étaient les mêmes que nous voyons aujourd'hui, attendu que les textes ne mentionnent plus dans la suite aucune reconstruction totale ou partielle.

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* Sauf celles du chœur, mais qui elles-mêmes auraient été rebâties au XIIIe siècle sur le même type que les voûtes originales. J'en reparlerai plus loin.

* Voir les textes qu'il rapporte dans son Mémoire, p. 295 et s.

† M. Bilson croit qu'il fut bâti entre 1096 et 1099, car on sait qu'à l'avènement de Raoul Flambard, en 1099, chœur et transept étaient terminés. Or, on constate certaines différences entre l'ordonnance du chœur et celle du transept, d'où l'on peut conclure que le chœur était achevé à la mort de Guillaume de Saint-Calais, en 1096, et que c'est au transept que s'étaient mis les moines, lorsqu'ils s'étaient occupés de continuer la construction pendant les trois ans qui s'écoulèrent entre la mort de l'évêque Guillaume et l'avènement de Raoul Flambard (Bilson, p. 296). Je ne m'arrêterai pas pour le moment à discuter ce point.

‡ "Materia lignorum, quæ recentem presbyterii testudinem sustinebat." (Will. Malmesb., *De gestis pontificum*, l. III. c. 135).

§ *Ibid.*

Pour moi, je crains bien que la cathédrale de Durham ne nous fournisse une seconde édition de l'histoire de la cathédrale de Coutances, et avant d'admettre que le chœur d'une église anglaise quelconque ait été voûté d'ogives dès 1096 ou 1099, c'est-à-dire pas loin d'un demi-siècle avant la construction des voûtes de Saint-Denys, j'attendrai qu'un minutieux examen archéologique m'en ait rendu sûr et trois fois sûr.

M. Bilson s'est bien douté que ses assertions rencontreraient quelque scepticisme chez ses confrères, aussi a-t-il déployé beaucoup de talent, photographié et dessiné beaucoup de détails pour les convaincre. Mais ce sont précisément ses dessins qui ont le plus contribué à fortifier mes doutes. Il y en a un tout spécialement [*] qui me paraît prouver, ce dont vous vous doutez tous, c'est que les ogives des bas-côtés du chœur ont été ajoutées après coup, car on les a maladroitement introduites dans une place qui ne leur était pas destinée et elles masquent une partie des moulures de l'arcade qui les avoisine. J'y trouve la preuve que les bas-côtés du chœur de Durham étaient primitivement voûtés d'arêtes.[†]

p. 36 La partie haute du chœur l'était aussi, ce qui n'a rien d'anormal, puisque la Trinité de Caen et Saint-Georges de Boscherville offrent des exemples analogues. M. Bilson, qui connaît si bien l'architecture normande, n'aurait jamais pu concevoir le moindre doute sur ce point, si, convaincu que les bas-côtés avaient été, dès le début, voûtés d'ogives, il ne lui avait paru pas trop invraisemblable qu'on eût employé cet artifice de construction sur de petits espaces comme les collatéraux, et omis de le faire pour de grandes voûtes comme celles du chœur où les nervures étaient bien autrement utiles.

Mais je répète que les bas-côtés ne devaient avoir à cette époque que des voûtes d'arêtes, l'argument n'a donc aucune valeur, et on doit conclure, sur la foi de tous les exemples connus, que le chœur de Durham ne possédait, au début du XII^{e} siècle, que des voûtes d'arêtes.

M. Bilson a constaté qu'en bâtissant le transept de Durham, entre 1096 et 1099, on ne comptait point le voûter, car il n'existe sur le mur occidental aucune trace des piédroits que les architectes n'auraient pas manqué de placer à chaque retombée de voûtes, si cette partie de l'édifice avait comporté dans le projet primitif des ogives ou simplement des voûtes d'arêtes. Mais, ajoute-t-il, on changea de plan en cours d'exécution, car on introduisit dans la construction du mur oriental des piédroits qui
p. 37 correspondent aux voûtes d'ogives sur plan barlong, dont le transept est actuellement recouvert. Celles-ci ayant mêmes profils que celles du chœur doivent être à peu près du même temps, c'est-à-dire de 1099 environ ou tout au plus de 1104.[‡]

Je crois qu'ici encore M. Bilson se trompe, car les travaux ayant commencé par le chœur, le mur oriental du transept ne saurait être postérieur au mur occidental, à moins d'avoir été reconstruit après coup. Or, s'il a été bâti pour porter des voûtes, il est certainement moins ancien que celui de l'ouest, puisque ce dernier appartient à un stage de la construction qui n'en comportait pas.[*] Il est donc certain qu'il n'appartient pas à la construction première, et comme il offre, dit M. Bilson, la plus grande ressemblance avec le chœur, voilà un argument de plus pour soutenir que le chœur a subi des retouches considérables et qu'aucune des croisées d'ogives qu'on y voit n'est aussi vieille que le dit M. Bilson.

Arrivons aux voûtes de la nef. Elles auraient été bâties, les basses entre 1099 et 1128, les hautes entre 1128 et 1133. Nous avons dans l'Ile-de-France trop de collatéraux voûtés d'ogives pendant les trente premières années du XII^{e} siècle pour qu'on doive à priori se refuser à croire qu'un architecte normand du même temps ait pu en faire de
p. 38 semblables. Mais, pour les voûtes hautes, il est bien certain que les croisées d'ogives barlongues, qui couvrent actuellement la nef de Durham, n'appartiennent point au plan primitif, car il a fallu relancer des corbeaux dans les murs pour en recevoir les retombées,[†] aucun piédroit n'ayant été prévu à cet effet par l'architecte de Raoul Flambard. L'ordonnance de la nef prouve à l'évidence que si on a vraiment construit entre 1128 et 1133 les voûtes dont parle le continuateur du moine Syméon, c'étaient de grandes voûtes d'arêtes sur plan carré, analogues à celles qui ont dû couvrir à l'origine la nef de Saint-Étienne de Caen.

Donc, à part peut-être dans les bas-côtés de la nef, il n'y a pas, je crois, à Durham, une seule croisée d'ogives qui puisse être antérieure à l'an 1133.

Je ne vous fatiguerai point à discuter l'âge de toutes les autres voûtes dont a parlé M. Bilson. Pour plusieurs, il se trouve en contradiction formelle avec Félix de Verneilh sur des points de fait et, pour me prononcer entre deux hommes dont la science et la sincérité marchent de pair, il faudrait que je puisse apporter un témoignage personnel qui exige une étude attentive sur le monument même.

Je n'ai point eu d'ailleurs la prétention de vous apporter ici une critique approfondie du système de M. Bilson, ni une solution définitive de l'important problème qu'il a soulevé. J'ai voulu seulement, par un exemple, vous montrer combien il règne encore
p. 39 d'incertitude sur des questions que l'on s'est trop pressé de croire pleinement résolues.

Je m'estimerais trop heureux si j'avais pu ainsi piquer la curiosité de quelqu'un d'entre vous, et lui inspirer, par l'insuffisance même de mes observations, l'idée d'entreprendre quelqu'une de ces magistrales études dont les Mémoires des Antiquaires de Normandie sont remplis.

Ce serait, Messieurs, un nouveau service rendu à une science dont les origines se confondent avec celles de votre Société elle-même. Ce serait une nouvelle occasion de mettre en lumière la fécondité artistique de vos ancêtres, ce serait un nouvel hommage rendu à notre vieille France, dont on ne célébrera jamais assez le génie artistique et le prodigieux essor.

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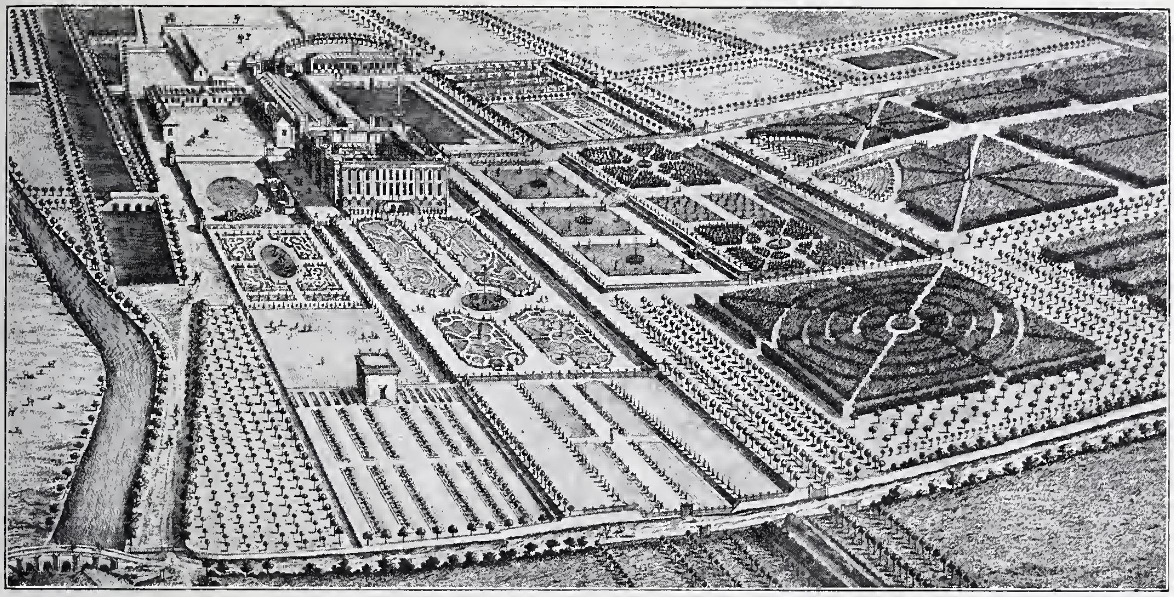
[*] Voir dans son Mémoire la fig. 12 de la page 300.

[†] Les églises normandes contemporaines de Guillaume, de Saint-Calais et de Raoul Flambard en offrent beaucoup d'exemples.

[‡] Bilson, *The Beginnings of Gothic Architecture*, p. 312 et 313.

[*] La phototypie placée en tête du Mémoire de M. Bilson, rapprochée de celle qu'il a donnée à la p. 313, prouve clairement ce que j'avance ici.

[†] Voir la figure 26, page 315 du Mémoire de M. Bilson.



Chatsworth, about the year 1700. From *Nouveau Théâtre de la Grande Bretagne:* fo. Lond. 1708.

THE UNITY OF THE HOUSE AND GARDEN. By Thomas H. Mawson.

Read before the Royal Institute of British Architects, Monday, 26th May 1902.

IT is matter for congratulation, and an omen of great promise, that architects and garden designers can meet and discuss in the most frank and open manner the various points upon which there may be an apparent overlapping of interests, each side recognising that the scheme in which architect, garden designer, and furnisher are at cross-purposes cannot add anything to the credit of the respective departments, or secure for the client that harmonious completeness which he has a perfect right to expect.

Not many years ago it would, I venture to state, have been an impertinence had any garden designer essayed to refer to the architect's work, or to question in any way the plan of the house around which the garden maker had to arrange his garden, and up to which he had in some way or other to bring his drive. In the same way, the garden designer sometimes resented any suggestion which the architect might think it necessary to make; each had a separate party cry, "The garden is one thing, the house is another." The course which I have set myself to accomplish to-night is to endeavour to grip the theory, adding a few practical examples which have occurred in my own experience.

I am painfully aware that dry theorising does not add to the charm and delightfulness of gardening, and that to the ear of the audience it would perhaps be much more pleasing to specialise in one branch of this delightful subject and enlarge upon it, and embellish and intersperse with illustrations and a bit of sentiment; but there are weighty facts to be dealt with first, and "Facts are stubborn chiels that winna din." And, again, I call to remembrance whom I am addressing: architecturally, the salt of the land.

I wish to make it clear at the outset that my Paper bears entirely upon the country house, with which class of house and gardens my work is connected; any reference therefore to other aspects of the wide field of architecture and its manifold activities is only made in order to illustrate and elucidate this special branch of the subject. I certainly do not wish to pose as an architect, but as one intensely interested in everything that appertains to the house and the garden, to which my life's work has been devoted; and, lastly, to the furnishing and decoration of the house.

Although my remarks will in general be true to the title, and be concentrated chiefly upon the harmony of the house and the garden: or may I say the union—the wedding of the one to the other—I purpose first to dig deeper and examine the foundation upon which every successful scheme of habitation must necessarily rest. Every truly pleasant, healthy, successful abode must rest upon considerations deeper than stones, or bricks and mortar, trees, and flowers. At no time, if the scheme is to be successful, can we divorce the house and (in the strict force of the word) the gardens from the surroundings; all must be viewed together in unity. We may "Build ourselves lordly pleasure houses, Wherein for aye at ease to dwell," but unless the site is favourably chosen, and the surroundings to match, it will soon find its way into the estate vendor's hands, placarded with the familiar announcement, the ominous verdict upon many an accumulation of wasted labour and misapplied means throughout the country: "This desirable residence to let or sell."

Where there is perfect freedom of choice, the three great considerations in deciding upon the site and position of a house are: climatic conditions, that is, whether the pervading character of the air is humid or dry; the nature of the subsoil, whether sandy, gravelly, or clay; and the aspect, for, no matter what the prospect offers, it is unwise to build upon the north, the north-west, or north-east side of a hill or knoll.

Doubtless there are many minor considerations that hinge upon one or another of these three chief headings, and personal preferences obtrude and unwisely subordinate matters of vital importance to what should be secondary and subservient. There are also other vital considerations, apart from personal preferences, such as pure water, sanitation, and other matters of expediency, which are more or less within the control of human skill; but the fact remains that the foundation of every successful scheme of human habitation rests upon the foundation already prepared, unalterable and abiding.

Later, I propose to inquire how far skill can go in securing this desirable success, and to determine its respective limitations and possibilities, whether displayed upon the edifice, the interior or exterior, and how the one part may by judicious thought act and react upon the other part or parts like well-manipulated colours placed in juxtaposition, with just the relative amount of each, in varying tone securing harmony, and expressing thereby some apparent preconceived effect of which the beholder is conscious.

But the first great question to be decided is: Are purely artificial considerations to be all-sufficient, as many state, when arguing for the garden being wholly formal; or are the artificial considerations to hang upon, and be guided by, the larger aspect fixed and abiding? To use a term which may seem paradoxical, are we to let *freer considerations* prevail? But if a person shuts himself up within the bounds of his house and his garden proper, he is restricted, and it is in the converse sense that I use the words "*freer considerations*." This counterfeit freedom or liberty is like the specious liberty proclaimed by those who, "walking in error, while they promise liberty, themselves are slaves of corruption."

Are we to work from greater considerations to the less, or from the less to the greater? Are we to work outwards from the house, or from the surroundings inwards? Whether is greater, the gift or the altar that sanctifieth the gift; the house or the landscape, with the other conditions before-mentioned that impart to it its acceptable qualities? Are we to make a world of our own, or are we to face the fact that, no matter how spacious and convenient the rooms, how shapely the proportions, how elegant the design, how rich the ornamentation, or how well-grown the shrubs and flowers, our world in which we live is for the most part made for us, and it only remains for us to shape out therein a retreat, and surround ourselves comfortably, and be received acceptably into the bosom of things?

The self-centred, incontinently rich man, whose chief desire is to leave an impress upon the earth of the display of his wealth, and the hybrid æsthetic who shuts himself within adorned walls, with furnishing and carpeting to suit his own particular taste, surrounded with pictured and sculptured representations of the world similarly hybridised, would dissent from this; but the pure, healthy mind recognises that those who have ever builded well and lastingly have been willing to make mere personal display and selfish interests subservient to, and harmonise with, their chosen surroundings. The former largely discards local customs in buildings and local material, and indigenous trees and shrubs, and acclimatised flowers in gardening; the latter espouses them and makes them his characteristic keynote.

It is quite possible to express the status of the proprietor of a mansion as well as of a cottage without harshness or discord with the surroundings. I am not by any means overlooking the importance or the necessity of a house and garden in all this, but let us as architects and garden designers realise how impotent we are even after we have succeeded in satisfying ourselves (which few ever do) with the plan and design of house and gardens and the interior and furnishing; what a small fractional part our success plays in realising all that is contained in the expressive endearing word *home*.

I fancy there is someone ready to ask, Which is most important, the casket or the jewel contained therein? The dress or the wearer? The play or the scenic grouping that imparts the desired local character to what is enacted? Yes, but what is the jewel? What is the play? There is the rub! Is it not the precious thing that in our professional capacity we may enhance, but can neither sully, make, nor break; the play—true, real, and human—regarding which you and I are met this night to discuss the stage equipment thereof? Is it not the fond remembrances and the tender endearments of *home* alike in cot or mansion? Childhood with its playful fancies and gilded imagination that time cannot efface?

> I remember, I remember the fir-trees dark and high;
> I used to think their slender tops were close against the sky.

Youth with its careless, buoyant activities and extravagant hopes? Young manhood with its vigorous onslaughts, putting the budding courage to the proof? The repository of the sterner realities of riper years; the sanctuary where, shielded safe, quietness and rest are secure when baffled hope and crushed desires have intervened and shaken confidence in the attainment of those evasive, delusive aspirations to which we all cleave fast? What memories of happiness and joy, interwoven with chastening grief and sorrow, the fulfilment of longed-for expectations, and happy reunions round the festive boards. Nay, but why more? Let us at once accept our limitation and admit that our work consists merely in imparting to the endearments and necessities of home a suitable expression and dress, that our work must be concentrated upon the scenic part of the play. And even here, leaving out of the question the dramatis personæ, we have only a portion of the equipment to ourselves; there is the ever-changing shine and shade and Nature's many moods, the successive seasons' varying display, to lend colour to the incident.

The summary of this is: on the one hand we have the circle of interest known as *home*; on the other we have an infinite play of circumstances and material, movable and moveless; the surroundings, house, and garden wherewith to colour that home life which forms the setting or casket for the jewel. And the inner does take colour from without; but we as outsiders cannot make any impress of that which is without, upon that which is within. Beginning with that which is to our hand, we take the requirements and accommodation desired by the client, and by means of the design and character of the house make them accord. Undoubtedly history makes an impress of the personal or what transpires within upon the surroundings, which may be proved if we analyse the thoughts which fill our minds when viewing a place like Haddon. Every corner of the house, every bit of furniture, seems to utter the sentiment of the stirring scenes and romantic episodes that have therein happened. Likewise in the garden the same glamour is over the trees, the sward, and even the flowers. Let us hope that this is the spirit that stimulates the desire to possess our surviving historic mansions, to live and walk daily in the companionship of the speaking reminders of the past, and not the mere shoppy dollarising proclivities which seem to be gaining ground so amazingly. If the contention is set up that the house is the jewel and not the home, I reply that he that buildeth the house (or, to use the correct legal word, *the proprietor*) has surely more honour than the house. Therefore the correct method of procedure is to clothe the needs of the proprietor with a character to accord with the surroundings, and expressive of his status; but what we mostly get is, first, a house to some foreign or scheduled design to which plan and gardens and everything else have by some fumbling method to work in.

I am not by any means laying the blame of all this at the door of the architect; I know well the demands of the architectural heathen who, as I was once told by a client, will have what they like, correct or incorrect, in spite of the remonstrances of the whole Royal Institute of British Architects; but for the time being I am confining myself to theory. Right well I know that theory is one thing, practice another.

Only the comparative few have the option of roaming the country in search of a suitable site; nor is it always desirable, for mostly, if not always, "Those who go through and through the wood eventually get a crooked stick at last," to quote a Westmorland localism. With the most of us our friendships, associations, or business decide the bounds of our choice, and, may I venture to state, there are few business centres throughout the kingdom which are not in direct communication with a selection of districts, where all the essentials of a healthy, pleasant home may be had. My remarks are by no means restricted to those who are building homes, but apply in measure to the numerous class whose homes come to them by inheritance or by purchase. As to the climatic conditions, the people who have the option of migrating to and from place to place wisely decide this point for themselves, ascertaining first by trial its suitability; and there is no better test. When doctors disagree who so likely to decide?

The nature of the subsoil is a point which needs more than ordinary caution, which many find out too late, for not alone the identical site of the house itself, but the immediate surroundings should also be tested, as rocky and gravelly spaces and the almost bottomless boggy patch with its dreaded miasmatic propensities often lie side by side. Beds of clay, though perhaps not so unhealthy, are cold and disagreeable, being most difficult to drain by the natural process of filtration. In flat districts there is a class of residence where the soil seems to retain too much moisture, thus productive of a kind of swampy luxuriance. These places, though outwardly desirable, seem to be for ever unoccupied, with the exception of short intermittent tenancies. The stunted and starved appearance of trees and vegetation on a clayey surface soil is well known, and much might be said of the varying degrees of success attained by those who essay to coax and cultivate it. But for health, beauty, luxuriance, and ultimate cheapness select a site with an under-stratum of gravel or marl and a good surface covering of loam. This refers to the under-stratum. Now a few words as to the surface soil. If the gardens are likely to be extensive, and if the choice lies between two sites where the above-mentioned conditions are about equal, it will be found a great saving to select one with a plentiful covering of heathy loam soil. I never fear emphasising and reiterating this necessity. Always test the nature and quality of the surface soil, whether the herbage is close or spare; the very soul of success in the garden depends upon it. Little do would-be-garden-makers know of the cost of importing fibre and till on to poor or exhausted soils; vegetation may grow, but that will never do for a gardener; it may for a farmer. If that quality of abundant luxuriance is lacking, don't call it a garden. A garden needs thoroughness quite as much as a building. You may put up an erection that will do for a dwelling-place, parcel out a plot of land after the form of a garden, but either a house or a garden worthy the name must be more than barren necessity.

Seldom when a plan of a country house is given do we find any indication of the compass points thereon. I am sure that this consideration does not receive the due importance it deserves. A plan without anything to denote the aspect just simply says that convenience and skilful planning are everything, and aspect secondary or nothing.

It is the highest tribute of praise you can bestow on a house, a building (be it a prison or a warehouse), a garden, a book, a poem, or a piece of music that it simply and unostentatiously expresses the purpose it serves according to the most direct manner consonant with the medium dealt in. We judge the success of an author according to his power of transporting us as witnesses of his theme and effacing himself. The extent and duration of the influence of the work are the measure of success attained. Similarly with the designer of the mansion and its garden; just as in the case of the author "out of the abundance of the heart the mouth speaketh," so in the case of the designer with the abundant production of the earth the man worketh. But no! Style after style comes and goes, fashion after fashion sweeps by and leaves, like tidal waves, its mark on every hand, and almost every district; and there are those who would fain have us focus our vision on these foreign grand and semi-grand tide-marks.

I give here an example of misapplied labour and money, overlooked by my own home. I must admit it would do no injustice to the site had it age and history, but it does not meet the needs of the owner. On one of the most romantic wooded eminences on the shores of Windermere, surrounded by quite a panorama of bold rocky mountains, someone within the memory of the present generation has built a castellated mansion, apparently a copy of a fortified one with archery openings adapted to serve as windows. Looking towards this castle, so called, is a Gothic mansion almost as costly, designed by a noted architect, and, like the former, of imported material which although better suited to residential requirements does not grace either the district or the site, but looks like a frowning nunnery in the midst of a smiling, happy land. These examples might be abundantly multiplied from the same district; but now if instead these owners and architects had begun with the eminently suitable stone of the district, which although it does not lend itself to fine masonry, carving, moulding, or similar embellishments, nevertheless has a rugged beauty, strong and massive, of its own, in keeping with the character of the fine picturesque district, then most probably we might have had erections of quiet dignity and homely grandeur, apparent comfort and convenience, and of influence indisputable and lasting, the truest of merits.

Thus, in a rather disjointed manner, I have propounded what I believe to be the theory of the making of a home. Practically I feel that I am little more than a crutch-maker—a deviser of makeshifts—to enable the halt and the lame to shamble along.

In short, Is our creed to be subjective truth dependent upon the objective, or is it to be merely subjective? If the latter, we shall be largely on the lines of an irrigation company whose supply is limited, and must needs be husbanded in canals and sluices; the supply ever decreasing and becoming weaker and more restricted as the area over which it spreads becomes extended. The subjective severed from the objective is parasitic: it feeds and battens upon itself.

What an anomaly to speak of the architectural world or the gardening world as if they were spheres detached from the universe, as though well-adjusted, proportionate buildings, elegant design, or, considered separately, fine trees and well-grown flowers were in themselves a world, and such-and-such were the be-all and the end-all of it!

It must be apparent to everyone present that to deal in general with so large a subject as the home environment and the surrounding landscape, and the suitable adaptation of the character of the house thereto, it would be needful to draw largely upon examples of both to clench the conclusion. But, judging from reports of former lectures that have reached me, notably one on the "Architecture of the Cotswolds," this is granted, that the character of each district throughout the country has its own special type of architecture adaptable alike to the extensive requirements of the rich and to the modest needs of the cottager. Nor is there any lawful restraint imposed upon the designer thereby, for as Nature by a multitude of individual features and objects secures the appropriate collective expression of the district, so is it open to the designer, provided he is true to the all-pervading keynote, to give the human needs an endless variety of suitable means of expression. A noble precipitous Raven Crag or Castle Rock, rising out of valleys formed by the usual rounded and shouldered Lakeland fells, says that sameness need not be the rule. On the other hand, there is no excuse for the apathetic motley mixture of Gothic, Classic, Italian, Swiss, Norwegian, Scotch, German, Dutch, Suburban, and mostly modern sham brick and half-timbered houses, with foreign and exotic gardens and environment to match, which at present prevails, not alone in Lakeland, but elsewhere. Whether I am correct according to dictionary definition or not, for the purpose of this Paper I prefer to distinguish between the environment of the house and the surrounding landscape. The environment I take to mean the bounds or environment of the garden proper, where we are free to display the natural desire for variety of foliage, provided we are guided by dominant keynote struck by Nature, and we observe the all-important but mostly always outraged principle of the relative scale of leafage. I would include the hedgerows, the copse of oak, or the mass of Scotch firs that keep the orchard snug, or the orchard itself—all the result of man's work and care. By the surrounding landscape I mean the combination of trees, woods, and fields, hills, plains, dales, the images and incidents, the features which group together and impart a distinct local expression thereto.

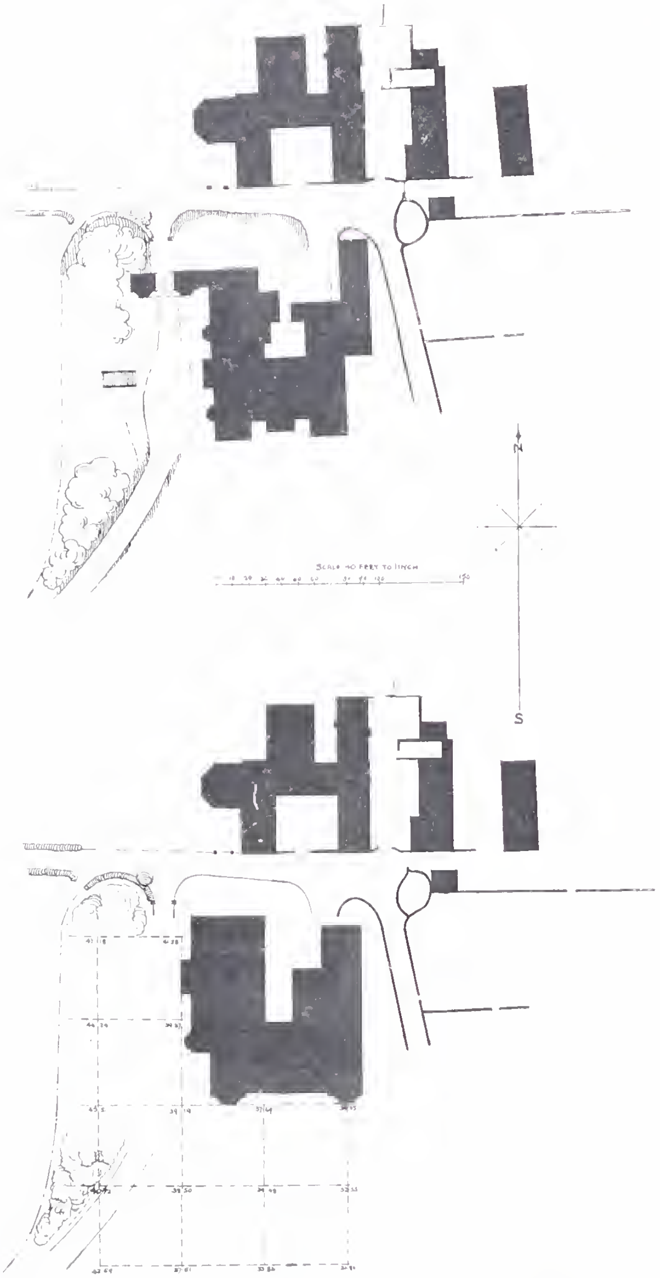
> Hills, vales, wood, netted in a silver mist,
> Farms, granges doubled up among the hills,
> And cattle grazing in the watered vales,
> And cottage chimneys smoking through the wood,
> And cottage gardens smelling everywhere,
> Confused with smell of orchard.

Before leaving this part of my subject I would like to make quite sure that I am rightly understood when I refer to not working outwards from the house. I use this expression in the sense you would use it when advising your pupils that they must not attempt to work from a pretty bay window to a complete plan; that if there be a bay at all it should grow naturally out of the plan. The house is both middle distance and foreground. The first if looking towards it, the second if looking from it, but with this additional consideration, that it is always the chief centre of interest; and so far as all this is connected with the garden circumstances must decide which is the most important.

I wish you to observe that so far I have spoken only of—or, at the most, have only given a practical application to—the site or setting, and the fact that the house should in some sense harmonise with the surroundings. In doing so I acknowledge the relative position in which each, considered as a separate entity, should be placed—bearing in mind, however, that the amenities of the home cannot be complete, or the house properly attached to the landscape, without a garden. In passing I would like to add that for some houses, quite apart from the plan of arrangement, it is most difficult to design a garden. In this category I would place those houses of either stone or brick which will not take on lichen or weather. "Build long and low," said Wordsworth, advising a friend; and those of you who know our bonny Westmorland, its old farmhouses (practically the only architecture we possess), will have realised how good that advice was. Surely it was the influence of the hills the poet loved so well which dictated this advice; I can conceive that under other conditions his advice would have been very different. With Wordsworth we must accustom ourselves to think in the larger sense; and now that it has become fashionable to think in continents, I hope this may not be very difficult.

I am induced to take this line, because I know that many hold that a building, garden, or other object is good or bad according to its detail; that whatever be the form of the mass, the architectural expression of, say, a house, is dependent entirely upon its mouldings, cornices, window spacing, or those other points which are classed under the heading of detail. This set of ideas has, in my opinion, been a fruitful source of that unsatisfactory planning to which I shall directly draw your attention, and I think you will agree with me that it is not the plan prepared in the office, reminiscent of the latest sketching tour, which is to be stuck on to the site, but rather the impressions and inspirations of the spot which should guide us both in the preparations of our plans and later of our elevations and of our garden scheme. In short, if we have on the one hand the surroundings with fixed, unalterable features, and on the other a house designed as a thing by itself, without reference to its setting or the special requirements of the individual site, we must realise that we have imposed on the garden designer, whoever he may be, a task which is well-nigh impossible.

The cure for this, you will say, is to be solved by the architect undertaking the entire design of the garden surrounding the house for which he is responsible. I think I have given sufficient proof of my interest in and appreciation of effort in this direction—indeed, I am sincerely hoping that one result of this Paper may be a wider appreciation of, and practical interest in, the subject of garden-making, and if this leads you to attempt the garden I wish you every success. But supposing an architect to have the technical knowledge requisite for the successful accomplishment of his garden designs, which few possess, or to be able to withstand the financial strain which time spent on the garden would entail. We have to realise that whatever we may wish, and however necessary we may think this entire control to be, we have often to deal with clients with great souls for business and occasionally little interest beyond -men who devote their lives to Combines and Trusts, or to organising and specialising; that, do what we will, he is sure to ask the local nurseryman to advise him as to the correct manner in which to lay out his garden. I am afraid you will think that if this is so, the case is quite hopeless. Well, I admit that it does not very much improve your chance of an effective whole, but if you agree with me and have allowed yourselves this wider outlook, your chances are not so bad as at first sight they would appear; for I contend that, whether you design the gardens or not, it is open to you to suggest, by your plan and in the most unmistakable manner, the general lay-out of that portion of the site which most nearly concerns your architecture. In support of this contention I will give you an example from my own practice. Some time ago I was asked by an architect to visit an estate to advise respecting a new drive and gardens which he thought would be required round the old house to which he was planning additions. After a careful study of the house and surroundings I made certain broad propositions as to positions of gate, lodges, carriage court, and connecting line of drive, kitchen garden, bowling-green, and avenues. Before leaving, the estate bailiff told me he had in his possession some old illuminated parchment plans which he thought might interest me, plans on which I found practically everything I had proposed nearly two hundred years after the plan had been made. In further support of this I wish to draw your attention to two plans [figs. 1 and 2], both of which were arranged for the same site. As you see from the grid of levels, the ground falls considerably from W. to E., and gently from N. to S. There is a good existing drive made many years ago at considerable cost; there is a service road at the north end of the house, and on the other side of this road modern stables and farm buildings, which, although useful and sanitary, are not ornamental. The drive continues at a low level to the east side of the house to a convenient alternative entrance on the east of the property. Now consider what would happen if plan No. 1 were adopted. The south front, practically the only place for flowers, is taken up by the carriage court. Owing to the position of the existing drive and the levels of the ground, the entrance to the court must be on the west side, and unless at a great expense must reach it by a very sharp curve. Turning from the court to the stables, the drive must pass along the west front, again by a curve; so your only available garden ground is cut up by your carriage court and drives, the latter passing in front of every window of the entertaining rooms. Now I maintain that this plan and arrangement does not suggest a satisfactory garden treatment.



FIGS. 1 AND 2.

We will now look at plan No. 2, arranged for the same site, with the old block still standing, and the dining-room in the same relation to it. The first thing you notice is that the south front is no longer taken up by the carriage court; that instead of the entrance porch, with its attendant inconveniences, you have an open loggia (not very clearly shown on the plan), which is so expressive of its purpose that you immediately think how you can secure to its occupants perfect quiet, with the accompanying lawns and flowers, and the music of birds and the sound of falling water. It is, however, on the west side that you enter most into the communion of ideas which were running through the architect's mind; and now you notice that instead of the uninteresting buildings you have something which corresponds to the pair of old gatehouses, and that the proportions of the carriage court are settled by the length of the west front.

Opposite the entrance there is a flight of steps leading to the level plateau above, a garden house forming a part of the gatehouse plan, which says as plainly as possible that the architect wanted the tennis and croquet lawns in this position. Now, having learnt so much of what the plan suggested, you would desire to see what you have already partially grasped, viz. the elevations, which help you still further, the spread and line of the house, its sky-line, its proportion and its mass, all of which would tend to form a decision in the mind already impressed. You perceive the requisite length and breadth of those lines we call terraces, and also the assistance which must be obtained from the garden walls on the east. So far the weakest side becomes apparent; indeed, the plan with a little help from the elevations has determined the larger part of the immediate surroundings. If you can so easily determine that which most concerns your architecture, why rail against the garden maker—or what does it really matter if one's client did widen his stream in the valley into pools for water-lilies, if he does insert a few pieces of stone to break the placid peace of the stream, if he does stand one stone higher than the rest as an invitation to the water-wagtail or the kingfisher—worse things have been done in the name of architecture.

I think we may now venture to inquire a little more closely into the plan of arrangement in block; and here I venture to say that, notwithstanding all that may be said in favour of modern house-planning, I do not think we can afford to neglect the study of the old examples throughout the country, or those so well illustrated in *Vitruvius Britannicus* and in the Wren and other portfolios in the Soane Museum. I am not in a position to say, neither does it seriously affect my contention, how the interiors therein illustrated are adapted to modern requirements. Judging from the way the house is placed on the site, the grouping of its accessory buildings, the arrangements of the drives and courts, the position of kitchen offices, and the ease of connection with the public highways, the kitchen garden, and the laundry, these plans have never, in my opinion, been excelled. Now, from the aspect of the garden, as well as the larger one already referred to, it is most important that questions of necessity, of convenience, and of shelter should influence the disposal and the grouping of the several parts. If these three conditions have been properly observed you will have secured a mass of buildings which will suggest a very comfortable residence. And, further, the garden is three parts made when you have provided those outdoor departments, such as drives and kitchen garden, which are not provided for the purpose of ornament, but from considerations of necessity and utility. If to these you add a terrace, a bowling-green, and a croquet lawn, all of which might quite reasonably be considered necessities, you are a very long way towards the realisation of your garden scheme. From this you will see that I hold to the position on which I have been so often attacked, viz. that a garden depends in a large measure on its plan and connection with the house, and yet as a completed whole it partakes as much of the character of the landscape as of the house. As we have now come to close quarters with our subject, before giving you what I consider a fairly satisfactory arrangement I wish to show by one or two examples how easy it is to make this happy combination of parts impossible.

The first is the plan of a house which it is proposed to erect on the South Coast: the site is a field of very sandy loam several acres in extent, with a contour which suggests that the sandy dunes at one time covered it. There is now a smoothness and roundness about the gently undulating ground, the highest point of which is some six feet above the proposed floor level of the house. At right angles to the west front, from which quarter come terrific winds the ground slopes very quickly, whilst to the south there is a shelving brae running down to the stream some twenty-four feet below. The view of the sea is to the west, about a mile distant, and between the sea and the house are two lines of railways unscreened by a single bank or tree. To the south-west are the ever-extending suburbs; but from the south to south-east there is a delightful stretch of country, rich meadows alternating with magnificent masses of trees, between which can be seen the distant hills bathed in bluest atmosphere. I wish you to realise that from the edge of the brae to the line of the road from which the drive enters, the ground is practically level; remember also that the west is a quarter from which the wind sweeps with such terrific force that, owing to the fall of the ground, you cannot screen with plantations; to the south-west the suburbs which you would desire not to see. I should here like to say that one of the happiest circumstances in connection with garden-making lies in the fact that you can within its area transform your imperfect prospect into a pleasing scene by planting where a screen or block is required, or, on the other hand, by opening out specially interesting bits of landscape--you may call this merging, or what you like. On such a site as this you would say the first considerations were aspect, shelter, a sunny garden full of flowers, a mass of

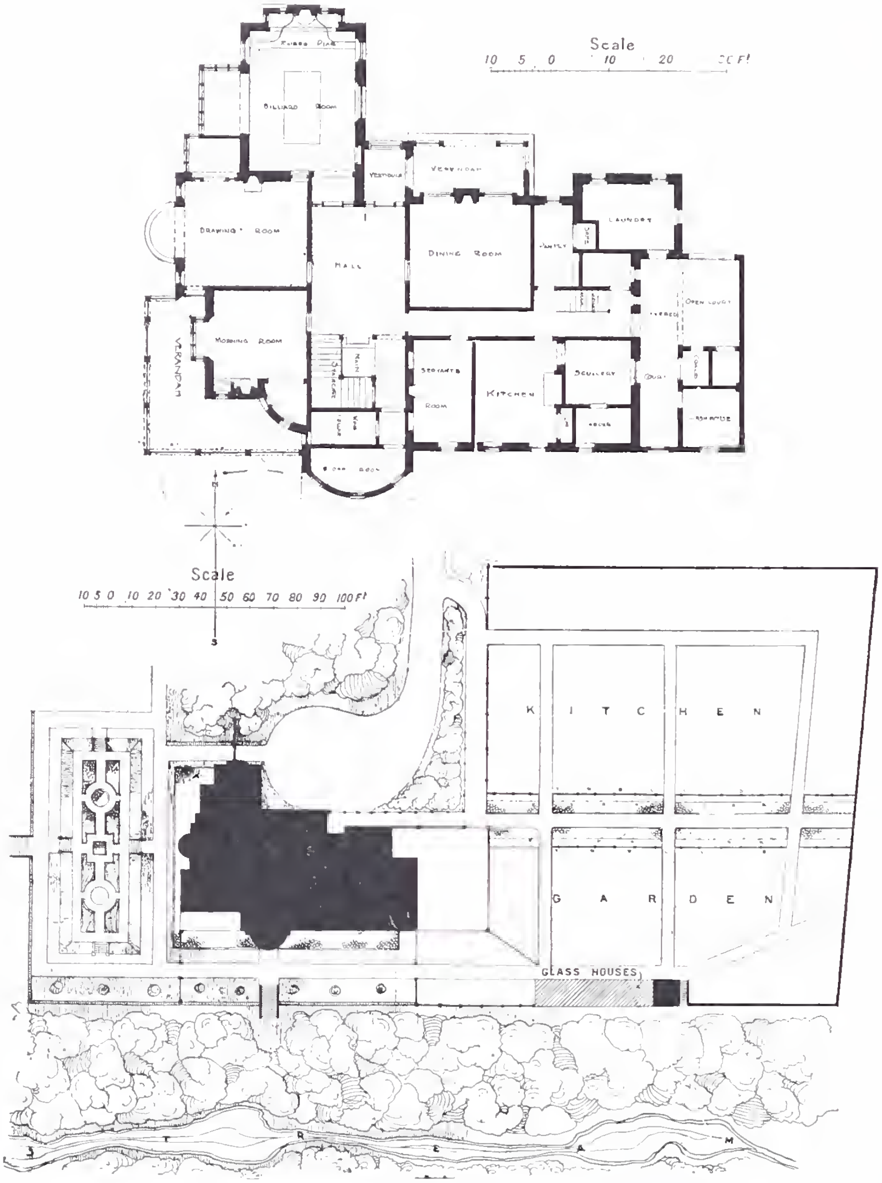


FIG. 3.—PLAN OF HOUSE AND GARDEN ON SOUTH COAST.

plantation to hide villadom, and shade, with a peep across the delightful landscape, and glimpses of the sea. Observe what would happen: the spread of the building takes little note of the wind; all the entertaining rooms, except the dining-room, which looks into the entrance verandah, face west; whilst the entire south front is occupied by the kitchen offices, and the building line is carried so near the edge of the brae as to leave no space for a plantation to screen or hide the property already referred to. In this case everything would be sacrificed to the sea view. The plan just shown bears specially upon the garden part of the scheme. Almost every disability here referred to could be overcome by turning what is now the west front to the south and setting back the building-line about eighty feet to the north and fifty feet to the east.

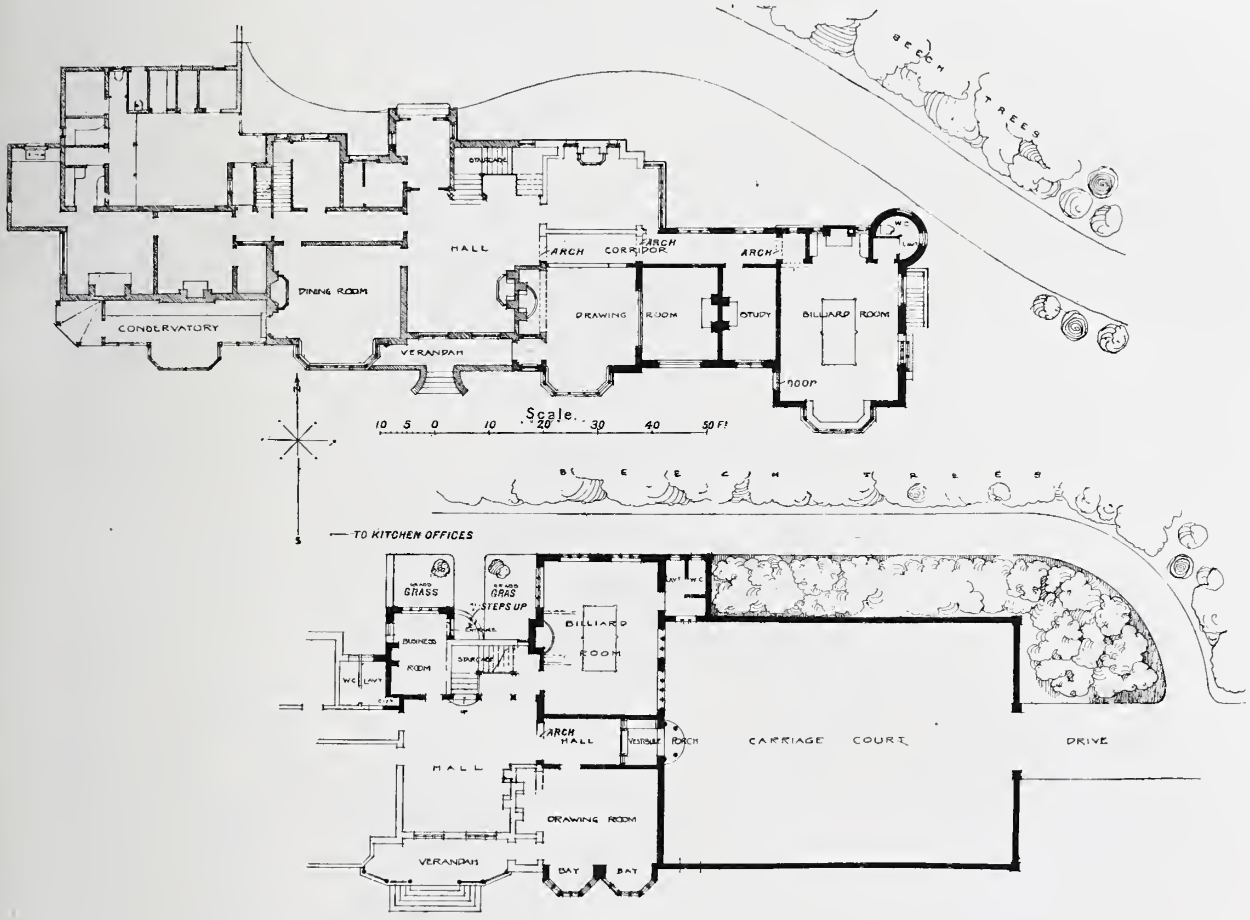


FIG. 4.

I now wish to ask your attention to a ground plan of additions to a house erected, say, in Ireland, and also to an alternative proposal which was made for dealing with the additions. I particularly wish you to grasp the qualities of the site, which is an exceedingly fine one. The site, of many acres in extent, has a steep slope between the north-to-south boundaries. You will realise the height of house plateau when I tell you that between the higher terrace and the lily-pond there are no fewer than sixty-six steps between the several flights; the walks, as also the intervening terraces, are carried on a slope of 1 in 50. Across the entire width of the property, from a line with the main terrace to the northern boundary, there is a magnificent wood of fine beeches, which tower high above the roof of the house, forming a glorious background to both house and garden. From this description you will see that the first proprietor was quite right in building lengthwise along the brow of the hill, and that the present proprietor wisely extended in the same direction. As you will see later, I think it was unwise to retain the position of entrance porch which formed a part of the older edifice.

From the east end of the house and in line with the main building there is a fine natural avenue, or rather clearing through the plantation, with a drive down the centre. Now look at the plan and you will see from the position of the entrance that instead of the avenue finishing at the house, it is necessary to skirt round it, and to obtain a carriage turn of sufficient size to cut into the wooded slope at the back. The kitchen court and tradesmen's entrance are close to the main porch. It is impossible to screen the kitchen offices entirely, and, worst of all, every tradesman, and every cart, has to pass through the main carriage turn to get to their proper entrance. I think you will agree with me that from the garden point of view this is quite an impossible plan. Notice in the alternative plan for additions the difference; the entrance, of some architectural merit, completes the vista at the end of the avenue as you drive up, there is an ample enclosed court, the tradesmen's road is carried out of sight behind a mass of yews to the kitchen offices, and the old entrance is converted into the proprietor's den or business room. Here from the window he can give orders to the coachman or gardeners, or meet any of the business gentlemen who call upon him. Such a room is of more use to a proprietor interested in the management of his estate than the one he calls his study. One advantage attaches to both plans, viz. that the south front is entirely private. These two plans of gardens, widely apart, if taken together are sufficient to show how much could be done by an ill-considered plan to thwart the garden maker anxious to realise a good scheme.

For the purpose of bringing the several considerations dealt with in this section of my Paper to a head I now give you my plan of gardens on the top of Flagstaff Hill, Colwyn Bay, a place with which it has been my great pleasure and my greatest misfortune to be connected. This site, I think, includes within its twenty acres almost every difficulty with which the garden maker can have to deal, difficulties with which I flattered myself I had in my plan (for once) successfully grappled.

Flagstaff Hill lies to the south-west of Colwyn Bay, 420 feet above the sea-level and about a mile and a half distant from the bay. The site is reached by two main roads, one by Pwllycrochan Avenue to the gate houses, the other an easier approach, by Oak Avenue, to the lower lodge at foot of the curved drive, some 400 yards long. This drive has an even gradient of 1 in 13 from lodge to carriage court. Before explaining the plan I ought to say that, whilst I am responsible for the entire arrangement as here shown, I was not the architect for the lodges, the stables, nor yet the house which it is proposed to build, although these buildings, so far as erected, have followed my setting-out plan.

Very few sites in the British Isles command such an extensive panorama of sea and landscape scenery. Under favourable atmospheric conditions the Isle of Man, sixty miles distant, can be distinctly outlined; the Westmorland Hills, still more remote, are occasionally visible; and frequently the tower of New Brighton can be clearly recognised. Puffin Island and the Menai Straits are within easy view, and the Snowdon range of mountains forms a magnificent background in the west. The direction of these views is indicated by the radiating lines shown on the plan. The principal view from position (4) on the plan across the carriage court, takes in the Conway Valley and Castle. From (5) is seen Little Orme's Head, (6) Colwyn Bay, and (7 and 8) the east end of the bay, with Rhyl in the distance. All the fine views

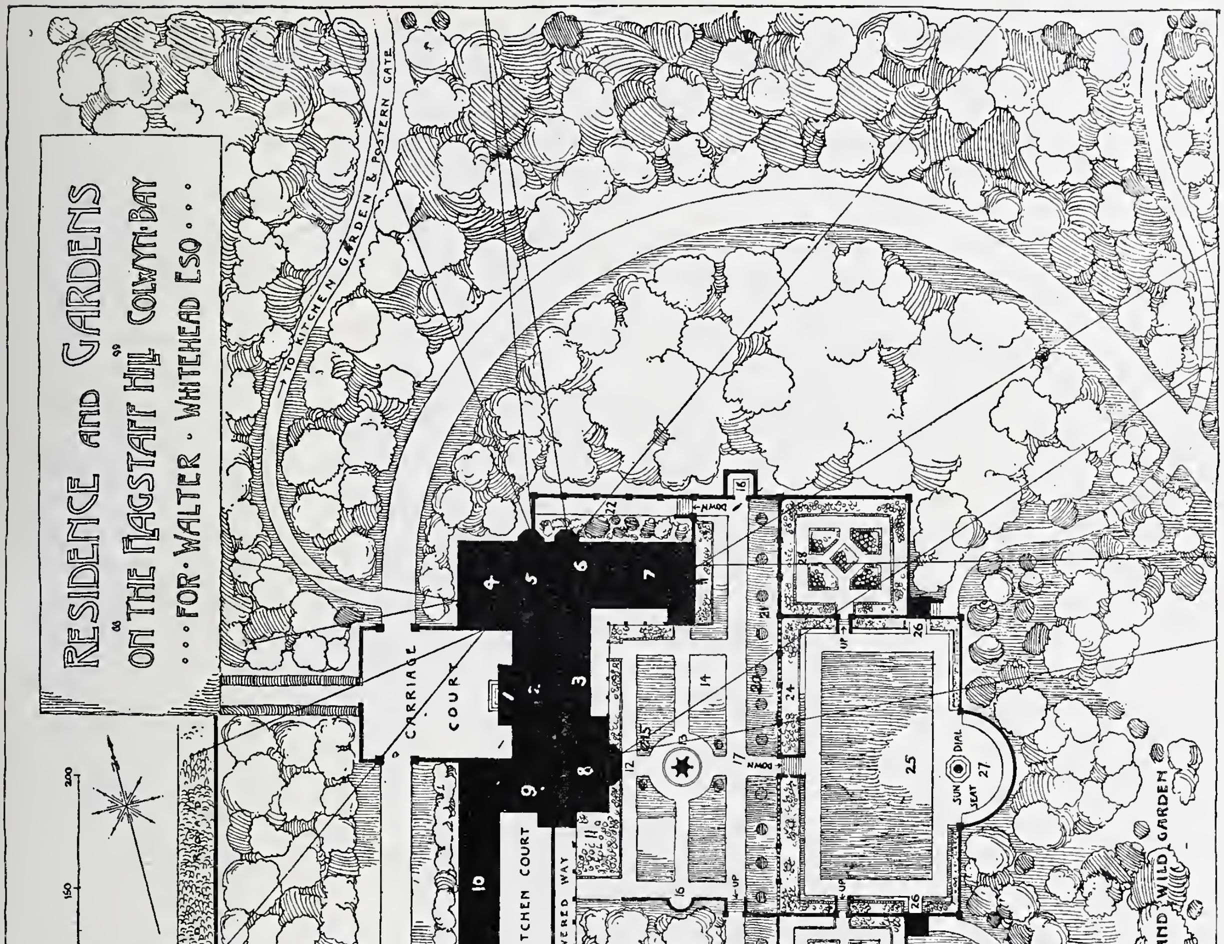

RESIDENCE AND GARDENS
ON THE FLAGSTAFF HILL COLWYN BAY
FOR WALTER · WHITEHEAD ESQ
TO KITCHEN GARDEN & POSTERN GATE
SCALE OF FEET
10 5 0 10 20 30 40 50 100 150 200
CARRIAGE COURT
KITCHEN COURT
COVERED WAY
GARDEN COURT
CONSERVATORY
HERBS & RESERVE GARDEN
STABLE YARD
COWS
PIGS
MANURE
ARCH
COACHMAN'S LODGE
GARDENER'S LODGE
SUN DIAL
SEAT
PLANTATION AND WILD GARDEN
UP
DOWN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41

FIG. 5

range from the south-west to east, that looking due south being somewhat uninteresting, and therefore the principal factor in deciding the plan of the garden in this direction, which if bright and gay would, it was thought, make up for absence of view.

The proprietor wished the house so placed and planned that he should not only obtain the best views from each room, but also that he should have the best aspect (if you consider direction of views you will see the difficulty), ensuring the rooms being as sunny as possible and securely protected from the wind. He also wished to find a sheltered walk on which to promenade from whichever direction the wind might blow. The radiating lines and the plan denote how the first conditions were met, all the entertaining rooms except the morning room, which only obtains the morning sun for a very short time, and the billiard room, on which the sun falls a little after midday, complying. The last condition was the most difficult to meet. Broadly speaking, the two prevailing winds are from the direction of the upper corners of the plan diagonally to the lower cross-corners, or from slightly south-to-west and east-to-north. The stables, lodges, cowsheds, and kitchen wing make an ample protection against the first, but the second could not be guarded against, though much is done in this direction by the T-shaped plan and the protection at (7), and also the high terrace wall and summer house at the end of the terrace (18) which screens a large portion of the terraces. The curved drive is well protected, the ground between the walk and the kitchen garden having been raised fourteen or fifteen feet and planted with maritime pines, Scotch firs, and evergreen oaks. The latter will in years to come give the best possible protection, without growing so high as to obstruct the view from the house.

Having regard to the fact that in the original state there was an entire absence of shelter on the part of the estate chosen as the site for the house, we have by the arrangements just referred to, and by the additional protection afforded by the garden walls and the range of glass, succeeded in securing a garden which, when all the work is complete, should be as sheltered, as sunny, and as shady as any in the valley below.

If you will allow me to criticise my own plan, I would like to say that had I this work to do again I would endeavour to form a separate road between the kitchen court and the public highway.

My last remarks must centre round my next plan, and the block plan of the same house showing connection with the gardens and landscape [figs. 6 and 7]. Please remember that I do not give this as a specimen of house planning, but as showing a general arrangement on a particular site which would give the garden designer the help he should receive from the plan of the house. This plan explains interior arrangements so fully that I need not again refer to it; but, as I shall have to refer to the practical working of the place, I wish you to notice the relative position of the carriage court, stables, kitchen court, drying-ground, the gardener's frame-yard, and their connection with the back road.

Now for the block plan, the different departments of which are as follows: (1) carriage court, (2) porch, (3) entertaining-block, (4) conservatory, (5) kitchen wing, larder, boots, &c., (6) laundry with coal-cellar under and drying-room over, (7) dairy, (8) stable-yard and drying-ground, (9) coachman's cottage, (10) gardener's cottage, (11) kitchen court, (12) basin for water supply, on walled-in kitchen garden, (13) toolhouse with fruit-room over, (14) potting shed, with heating-chamber under, a range of glass connecting this with open loggia leading from the dining-room, (15) manure-shed and compost-bins for peat, loam, sand, &c., (16) two small houses for cucumbers and melons, (17) garden yard enclosed by wall, against which is a wooden awning for the protection of ladders, &c., (18) frameyard, with ample space for cold-frames, hotbeds, and standing ground for chrysanthemums, (19) garden pavilions, and (20) the orchard.

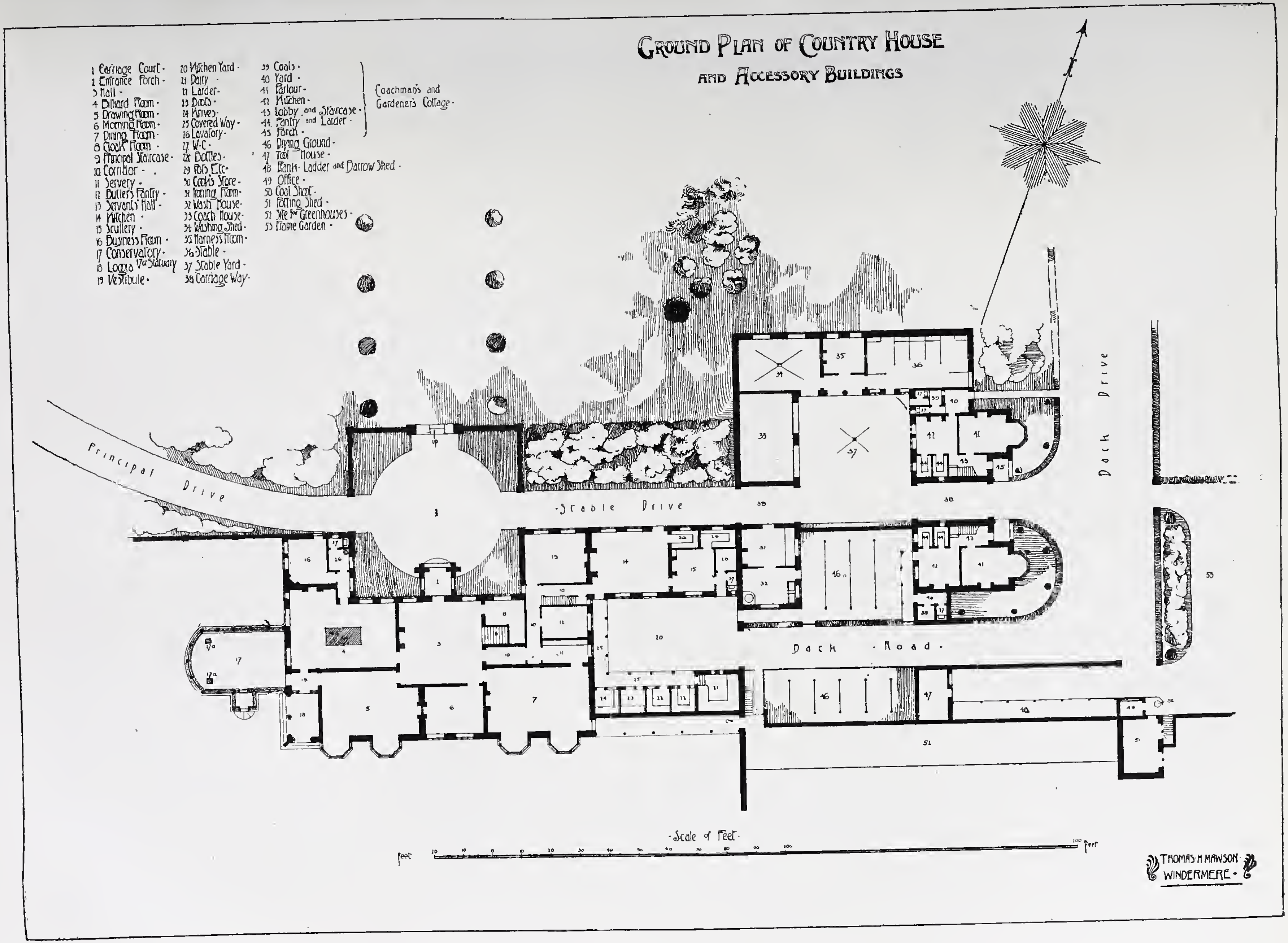

Ground Plan of Country House
and Accessory Buildings
1 Carriage Court·
2 Entrance Porch·
3 Hall·
4 Billiard Room·
5 Drawing Room·
6 Morning Room·
7 Dining Room·
8 Cloak Room·
9 Principal Staircase·
10 Corridor·
11 Servery·
12 Butler's Pantry·
13 Servants' Hall·
14 Kitchen·
15 Scullery·
16 Business Room·
17 Conservatory·
17a Statuary
18 Loggia
19 Vestibule·
20 Kitchen Yard·
21 Dairy·
22 Larder·
23 Boots·
24 Knives·
25 Covered Way·
26 Lavatory·
27 W·C·
28 Bottles·
29 Pots Etc·
30 Cook's Store·
31 Ironing Room·
32 Wash House·
33 Coach House·
34 Washing Shed·
35 Harness Room·
36 Stable·
37 Stable Yard·
38 Carriage Way·
39 Coals·
40 Yard·
41 Parlour·
42 Kitchen·
43 Lobby and Staircase·
44 Pantry and Larder·
45 Porch·
Coachman's and Gardener's Cottage·
46 Drying Ground·
47 Tool House·
48 Plank· Ladder and Barrow Shed·
49 Office·
50 Coal Shed·
51 Potting Shed·
52 Site for Greenhouses·
53 Frame Garden·
Principal Drive
Stable Drive
Back Drive
Back Road
Up
Scale of Feet
Feet
10 10 0 10 20 30 40 50 60 70 80 90 100
100 Feet
Thomas H Mawson
Windermere

FIG. 6.

The main and lower terrace and fountain garden come naturally in front of the entertaining rooms, and the tennis lawn on the west ; the kitchen garden, generally the most perfect part of all, is in direct communication with the terrace. There within the high walls can be found shelter from the winds ; there you will pluck your earliest flower and the last rose of summer, your most delicious strawberry and most luscious plum. And, as it is only the kitchen garden, you can grow those common flowers which the professional gardener would banish from the terraces ; there you can grow burnet, wild thyme, and water mint ; therefore, says Bacon, you are to set whole alleys of them, to have the pleasure when you walk or tread.

You ask, Is this to be the end of the garden ? By no means ! Away in the hollow is the lake margined with water hawthorn and water-lilies. On its banks are knolls of oak and masses of rhododendron interspersed with wild gardens and glades of grass. But the limits imposed by the title have been reached, not, I hope, without showing that the house and garden should be the outcome of local conditions ; that in particular the garden, which is the link between the house and the landscape, should receive suggestion and help from the house as well as the surrounding country.

Just one word for the orchard. The fact that we were all boys once should be sufficient excuse for lengthening out this Paper so as to include it. We have forgiven the apple tree long ago for bowing its head to Adam's will. Says John Burroughs, " It is an ominous sign when you are ashamed to be seen eating an apple in the street. When your neighbour has apples and you have none, and make no nocturnal visits to his orchard, then be assured you are no longer a boy either in heart or years."

You cannot think of an orchard without realising how beauty waits on use. You say your ground is too restricted to allow of both conifers and fruit trees ; then let the conifers go, and every youth of your acquaintance will love you for so wise a choice. A country house and garden without an orchard ? Impossible ! Where shall you place it ? Just where fancy suggests. I love it so much that I would not criticise you wherever you placed it ; but if you want to be absolutely correct, and if you are anxious to have carefully pruned trained trees, choose a position near the kitchen garden. Plant regularly in straight rows, and do not mix your cherries and apples, pears and plums too much, but try to obtain effect by grouping each together. If you cannot afford a few extra trees to make up for the depredations of the jays, plant it somewhere under the eye of the gardener ; but in my opinion the great thing is to plant an orchard.

> Good is an orchard, very good,
> Though one should wear no monkish hood ;
> Right good when spring awakes her flute,
> And good in yellowing time of fruit.

I must plead guilty to leaving you with the form without the dress. As a garden lover anxious for the spreading of his art, I wish to help others on what seems to me the right road. I have brought you to the gate, and fain would go inside and help you dress and clothe your walls ; wreathe garlands of roses and clematis through the balustrade, entice polypod ceterach, toadflax, and fumitory between the chinks in the wall ; fix the Cupid with his dart right opposite the lovers' bower ; plant the yews and box, lavender and rosemary ; fill the borders with every homely flower that grows ; help you grave deep on the sundial the call to work while it is day. But this I must for the present leave. If in my Paper I have brought you to a point at which you cannot stay, if you must walk boldly in and work, right glad shall I be. In conclusion I wish you to observe that I have referred specially to neither the formal nor to the landscape school ; if you ask me to say to which I belong I must answer, Show me your site and I will tell you ; there is work in plenty for both ; the help of all is

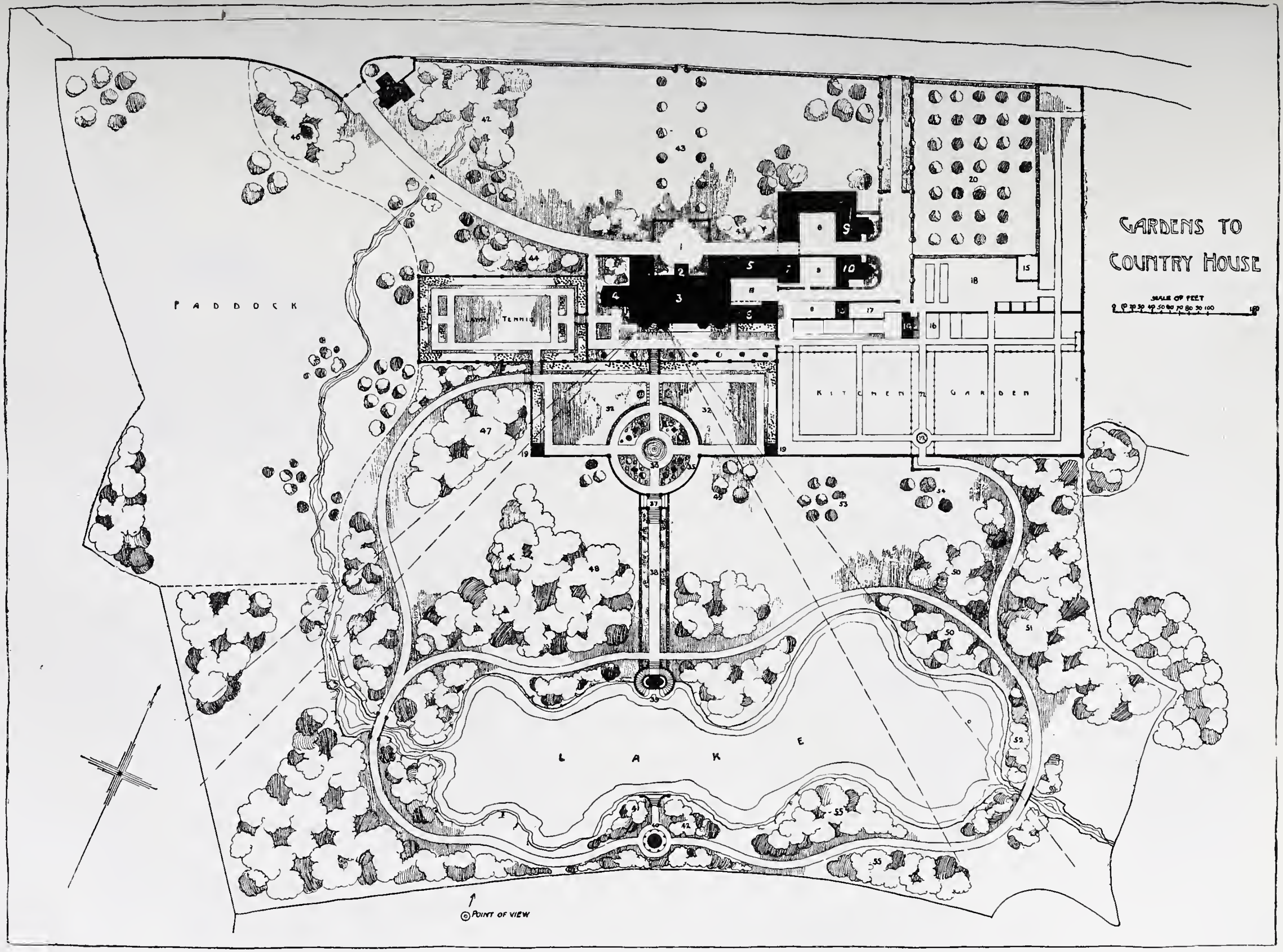

GARDENS TO
COUNTRY HOUSE
SCALE OF FEET
0 10 20 30 40 50 60 70 80 90 100 150
PADDOCK
LAWN TENNIS
KITCHEN GARDEN
LAKE
POINT OF VIEW

FIG. 7.

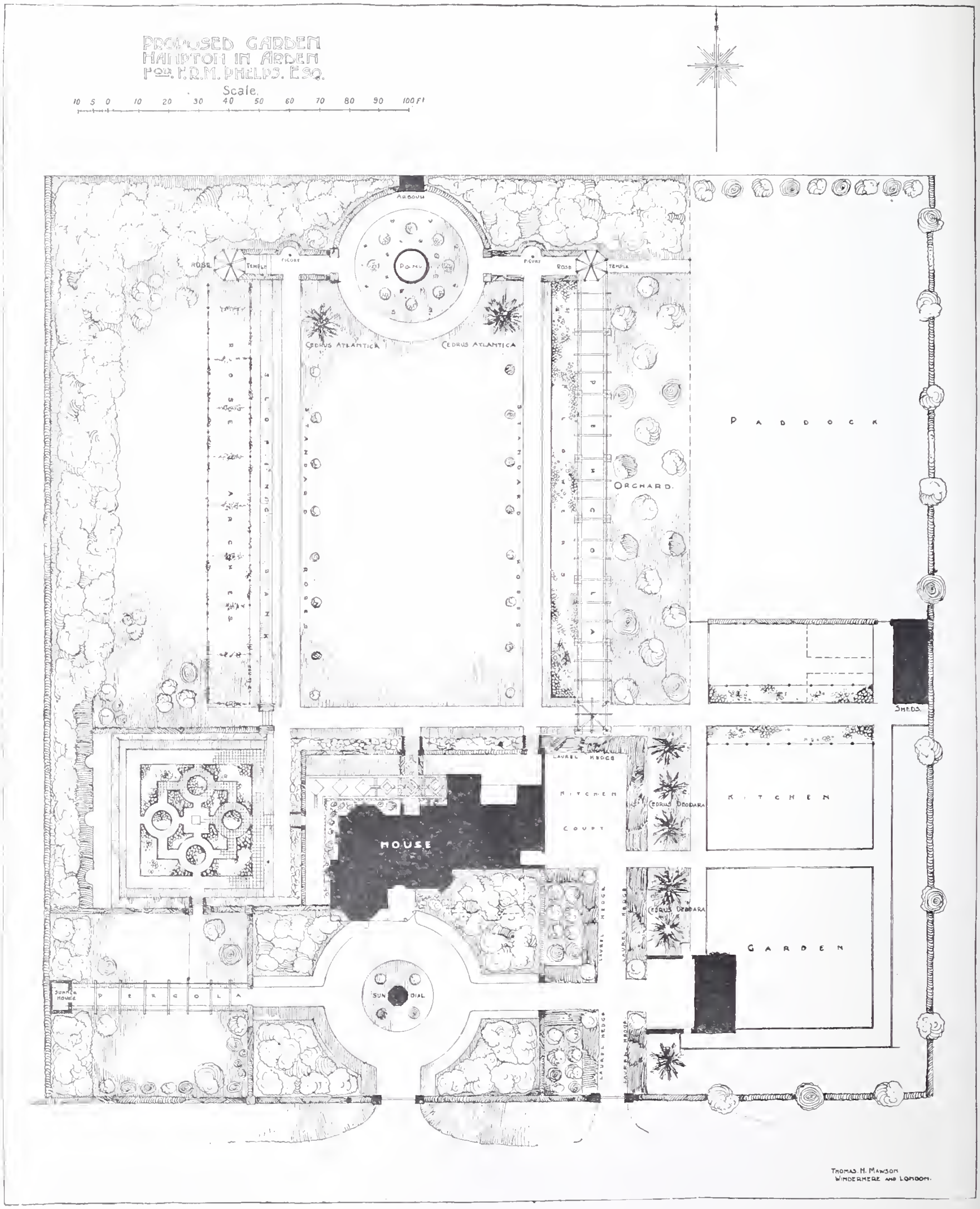

PROPOSED GARDEN
HAMPTON IN ARDEN
FOR F.R.M. PHELPS. ESQ.
Scale.
10 5 0 10 20 30 40 50 60 70 80 90 100 FT
ARBOUR
POND
ROSE TEMPLE
FIGURE
FIGURE
ROSE TEMPLE
CEDRUS ATLANTICA
CEDRUS ATLANTICA
ROSE ARCHES
SLOPING BANK
STANDARD ROSES
STANDARD ROSES
PERGOLA
ORCHARD.
PADDOCK
SHEDS.
LAUREL HEDGE
KITCHEN COURT
CEDRUS DEODARA
KITCHEN
HOUSE
CEDRUS DEODARA
GARDEN
LAUREL HEDGE
LAUREL HEDGE
SUMMER HOUSE
PERGOLA
SUN DIAL
LAUREL HEDGE
LAUREL HEDGE
THOMAS H. MAWSON
WINDERMERE AND LONDON.

FIG. 8.

needed. I believe if we could divest ourselves of some of the prejudices called schools, and devote our energies to earnest and unstinting study (remembering always that the wisest men can learn something from fools), and apply that study to the perfection of our craft, if we could allow our professional jealousies to give place to a spirit of mutual helpfulness, we might yet do something to advance the peaceful arts of the little England we all love so well.

DISCUSSION OF MR. MAWSON'S PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. H. E. MILNER, F.L.S. [*H.A.*], who rose on the invitation of the President, moved that the best thanks of the Meeting be accorded to Mr. Mawson for his Paper. He agreed that architects and garden designers should work together in harmony, but in his opinion the architect should have the prevailing voice in the treatment next the house, so as to assure its being in harmony with the house, and that the plan of the whole laying out should be submitted to him. The two arts were somewhat distinct, and the garden designer could by his experience bring into prominence any particular view that he might determine was the best. He could by skill lead the eye in any desired direction. He could alter the straightness of a boundary by his colour and mode of planting, and he would take cognisance of any characteristic points in the landscape. He thought it necessary that the garden designer should be able to realise his picture finished. He had had the privilege of working with some of the best architects of our time, and he had always found that their appreciation of the situation next the house was essential and worthy of most serious consideration. He would advise architects to give their house more base. The plan must be settled between the owner and the architect. The aspect was an important consideration, and in a fairly square house south-east is the best. He had no prejudices against building on loamy clay soil, as it was a much better conductor of heat than sand and gravel, and therefore a more even temperature prevailed. He did not agree with Mr. Mawson in not working *to* the house but *from* it. The occupants were more frequently in the building than in the grounds, but the views should develop from the detailed base to the broad lines generally to be made or forced, with foreground and distances.

Mr. W. G. WILSON [*A.*] seconded the vote of thanks. He had listened to Mr. Mawson's Paper with much interest. It had been their fortune in listening to Papers by gentlemen who were not members of the architectural profession to be called somewhat over the coals, and Mr. Mawson, too, had called them over the coals that evening. He must say that in the designing of houses it had never been his fault, and he knew of no architect of any capacity who would fail, first of all, to consider the points of the compass in designing his house. He had had the difficulty forced upon him with regard to designing gardens which Mr. Mawson had raised, but he was bound to say that the difficulty had not emanated from him, but from the gardener who had been called in to advise as to the laying out of the gardens. He thought that every architect who designed a house desired, not only that the best points of his house should be embraced in the view from the gardens, but that the view of the surrounding country from the house should be led up to by the foreground formed by the gardens. Therefore he thought that Mr. Mawson had made rather an uncalled-for charge—a charge which had been made against them by gentlemen connected with other branches of the art as well as that connected with gardening. He had listened with the greater interest to the Paper because in the case of a house which he designed in Liverpool, situated in a rustic, old-fashioned position, one would naturally suppose that a formal garden treatment would be the best; but over and beyond the site of the house there was a far-distant view of the Welsh hills, and in planning a formal garden to suit the house, which was of a somewhat old-fashioned design, the proprietor held that such a garden was quite unsuitable for the position; that instead of being a formal garden, which would be a sort of complement to the house, the garden ought to be the foreground to the view that was seen from the windows of the house, and so insisted on having rockeries and winding paths, and what not, to lead up to the far-distant view of the Welsh mountains. He had never been quite clear in his own mind whether a landscape garden was the proper thing for such a site, or whether the formal garden which he had set his mind upon to emphasise the view of the house was the correct thing. He should be glad to hear Mr. Mawson's views on the point, viz. whether where a house was placed amidst quaint surroundings, but, being on a higher site, overlooked a far-distant view of natural mountain scenery, the garden ought to be a formal garden, or whether he would consider wholly the view which he would have from the house, and would make the garden a stepping-stone to the scene beyond. With regard to the question of aspect, he did not think it quite fair to the profession to show plans of a house, and a very large and important house apparently, with the whole of the entertaining rooms facing due west, and the kitchen and other offices facing south. He fancied that must be unique, or almost unique, and he did not think it was a difficulty which Mr. Mawson would have to overcome very often.

Mr. R. S. LORIMER [*A.*] said he had listened with great pleasure to Mr. Mawson's Paper, and entirely endorsed his view as to the great importance of the aspect in laying out the garden in the relation of the garden to the house. He did not think the plan that he showed, where the kitchen and scullery were facing due south, was by any means a unique example. He had seen many houses where the architect seemed to have got into his head a type of elevation which he wished to adopt, and he had packed in his plan to suit the elevation, and he had made his kitchen and other offices not only look to the south but entirely overlook the garden. In his small experience he had found that that was a thing that clients generally were very keen about, that the servants should not overlook the garden. On going to a site first the architect, he thought, should carefully consider the blocks of his house, where his kitchen garden ought to be situated, and the direction in which it should look, and where his public rooms ought to look, and which way the more business part of the house should face. Also the method of approach to the house and the arrangement of the avenue were of the utmost importance. In Scotland, where they had to nurse every bit of sun they could get, the approach should always be from the north if possible, and all the public rooms should be to the south and to the west. With regard to the question of treatment referred to by the last speaker, that was to a large extent a matter of instinct. When an architect got to a site his instinct told him, more or less, whether a formal treatment or a natural treatment was the one for a particular plan; no hard-and-fast rule of any kind could be laid down. Each piece of work that an architect got of this description must be looked at entirely on its own merits. The architect should consider all the surroundings of the house in arranging his plans. But, unfortunately, most architects lived in towns and not in the country, and in his opinion only an architect who had lived a great deal in the country could lay out a garden. He thought the ideal connection was when the architect mapped out the whole scheme and then called in some sympathetic man, like Mr. Mawson, who could give instructions as to the horticulture, the planting, and that kind of thing about which no architect could possibly have a thorough knowledge—that is to say, a nurseryman's knowledge.

Mr. LEONARD STOKES [*F.*] said that he was afraid that if it was laid down hard and fast that aspect was everything the architect might find himself in somewhat of a hole; if, for instance, the living-rooms were made to face south and looked into a bank, the proprietor would not thank him. Whereas, though the theorist said, "Place your living-rooms to the south," the proprietor might have a pet view facing north. He himself had a client with that kind of view, and he had been obliged to put the drawing-room facing north, and to contrive to get a little sun into it. If the best view was to the north, the drawing-rooms must certainly be placed so that some windows faced the north. As regards one of the plans shown, Mr. Mawson said that the sea was to the west, and probably the client insisted on the living-rooms facing the sea, as he wanted to look at it. On the face of it, his architect appeared to be a little bit of a duffer, because he put the kitchen facing south, which he need not have done; but if the client insisted on having the living-rooms facing the west, for the reason mentioned, it was just possible, though it was hard to believe, that there might have been some reason for putting the kitchen facing south, though certainly it was not ideal. But it was very difficult to lay down a hard-and-fast rule that the living-rooms must face the south, and the kitchen and offices face the north. Special cases had to be treated in a special way. He had to confess that he had designed a drawing-room facing the north, and a kitchen the south. He had tried to prevent the sun coming into the kitchen, and he had tried to get the sun into the drawing-room. It was only by using a little ingenuity that they could get over special difficulties. But if they tried to follow what sounded all very well theoretically, and did not allow their clients to look at their pretty views, they would not give satisfaction; and that was a matter they all had to think about. So that, although he agreed in principle that they must get sun into their houses, he did not think it fair to condemn the architect who put the living-rooms to get the sea view, and perhaps unavoidably got the kitchen to the south. There might have been something that drove him into it against his will. Clients were obstinate people, and sometimes architects were driven to do things they could not well get out of.

Mr. E. W. HUDSON [*A.*] said he should like to know how Mr. Stokes had succeeded in so very important and difficult a thing as getting the sun on to façades having a northern aspect. If he could only do that in some of our London sites it would be a fortune to him and a great many others. He had listened with much pleasure to the Paper, and he should like to support the vote of thanks. He supposed that in a past century, when such Palladian residences were put up as Wanstead Park, Prior Park, or Waverley Abbey, it was customary for architects to poise the buildings on an extensive basement, by which the reception-rooms could get a view over a small hill or high ground, which otherwise would have prevented enjoyment of a prospect from the windows. Mr. Mawson's Paper had given them both poetry and practice, and, though his lantern pictures had been confined mostly to modern examples, it would be most interesting if they could have views of and study some of the old gardens which they recalled to their imagination as they listened to his descriptions. Mr. Mawson mentioned one, Haddon Hall, and there were many—such as Hampton Court, Waverley Abbey, Wilton, Montacute, and others—in which they could still see the arrangements that he believed obtained amongst the old monastic establishments, where the orchard was placed, as Mr. Mawson suggested, quite close to the kitchen garden.

Mr. INIGO TRIGGS [*A.*] said that in studying old gardens he found that very often the plan of the house was quite ignored in regard to the gardens. There were exceptional cases of course; that shown them by Mr. Mawson seemed very exceptional. He understood Mr. Mawson's point to be that if the house had been put a little further back a very good garden could have been got on the south side; but what was required was to keep the view on the west side in that case.

Mr. MAWSON, in reply, said that Mr. Milner had evidently overlooked one passage which he thought he had read very carefully. When he spoke of working "towards the house" and "from the house" he did not mean it in the sense that we must start laying out away in the park and finish at the house, or start building our terraces before we laid out the other; it had nothing whatever to do with that part of the question. What he tried to show was, that in designing we should work from the larger considerations and finish with the lesser; that we must first be influenced by the surroundings and local conditions. After we have built our *pillar*, we may carve it with water-lilies or anything we like; but we must first think of the pillar as a whole and not solely of the carving. With regard to Mr. Wilson's remarks, he was sorry he could not agree with him that architects did pay proper attention to the aspect. He happened to live in the Lake District, and he gave the example to which he had referred for a particular reason. He pointed out that the views were to the west; that everything was given up for the sake of the views. He maintained that it would have been quite possible to have had peeps and glimpses of the sea, and still to have retained the aspect which he thought was so desirable in that case. In his own district, for instance, the best views were from the Windermere side, and of course when they got up to Ambleside very much the same thing applied; nearly the whole of the grandest views were either to the west—that is, looking across to the Langdale Pikes, or to the north—that is, looking across to Loughrigg Fell and Grasmere; and when people build they say: "We must have these views, and we do not care so much about the aspect." When it was the intention to occupy the house for three months in the year, say in June, July, and August, that was quite a proper course to take; but when one had to live in the house for twelve months it was quite a wrong one. He asked them to remember that in no case when he showed the plan did he refer to the architect; too often these matters were fixed, not by the architect, but by the client himself. In advising a client he would say, irrespective of all other considerations, that aspect was the most important. If they had a particular view which they wanted to gain from the grounds it was a good opportunity for building a garden pavilion or summer-house; they could always get the view from some part of the garden. What he particularly wished them to see was that if they placed their rooms in the wrong aspect, as when a drawing-room faced north, they thereby compelled a part of the garden to be in a sunless position. He should mention that he purposely kept clear of details; he simply wanted to take them to what he considered was the source of inspiration and to show that plans of arrangement for house or garden should be suggested by the site. It was with local material and local conditions that they had first to deal. Replying to Mr. Wilson's question as to what would be the right treatment if one had an exceptionally fine view from one's house, the author showed slides of two houses—his own and his brother's—at Windermere, commanding a view of the Langdales, the most charming view in the Lake District. One of the slides showed the two houses with a rough-built terrace wall on the side looking towards the Langdales. His idea in having the wall there was not only to get a firm base-line for the cottages themselves, but to have what he called a steadying line for the most romantic view to be seen over it. He thought it was infinitely better to see a fine natural landscape, especially such as those they had in the Lake District, over a rough, locally built terrace wall, than to see the same landscape over a lot of undulations that might have had to be made for the purpose. He was particularly interested in what Mr. Lorimer had to say about gardens. Mr. Lorimer had himself done many charming gardens, therefore anything from him was of special value. Mr. Lorimer had done exactly what he (the speaker) hoped others would do, viz. arrange the gardens round the house which they had designed, provided always that they possessed the necessary practical knowledge, which he was afraid very few possessed. When they came to consider that perhaps only one out of every twenty gardens laid out in this country had ever had any professional skill spent upon it, surely there was plenty for every one of them to do. Taking note of Mr. Lorimer's ideal for laying out a garden, Mr. Mawson remarked he could not entirely agree. Personally he intended to design gardens, and if ever out of work he might even venture to design a house. Replying to Mr. Stokes, he tried to avoid fixed principles. Of course he had to give examples; it was absolutely necessary to emphasise the points he wanted to make; but at the same time, repeating what he had said before, he wanted them to go to the spot and simply do what the local circumstances, surroundings, and materials suggested that they should do. That, to his mind, was the right way to begin to plan a garden. Mr. Triggs, as might be expected, had grasped his point about turning the house round and setting it back.

9, Conduit Street, London, W., 31*st May* 1902.

CHRONICLE.

Demolition of existing houses in London.

The following communication has been received from the London County Council. The Council of the Institute would be greatly obliged if members who happen to be possessed of interesting information as regards any of the scheduled premises would kindly send in to the Secretary whatever notes on the subject they may deem desirable.

County Hall, Spring Gardens, S.W., 10*th May* 1902.

Sir,—In connection with the carrying out of street improvements, housing of the working classes schemes, &c., the Council has come into possession of a number of premises which in due course will be demolished. The Council is, however, desirous that a record (in the shape of photographs, drawings, &c.) may be kept of any of these premises which either have historical associations or contain features of architectural interest; and I am directed to forward herewith a list of such houses, arranged according to the various metropolitan boroughs, and to ask whether the Royal Institute of British Architects would kindly assist in the work by furnishing the Council with any information at their disposal with regard to any of the premises in question.—I am, Sir, your obedient servant,

G. L. Gomme,
Clerk of the Council.

The Secretary R.I.B.A.

Metropolitan Boroughs	
Battersea	Chatham Road, 61 to 71 (odd). Nine Elms Lane, 3, 5. Battersea Rise, 64, 95, 97, 117, 119.
Bermondsey	Gomm Road, 2. Bermondsey New Road, 25 to 33 (odd). Grange Road, 7. Tanner Street, 48 (part of). Sard's Rents, Factory. Ainsty Street, 7, 10, 11, 12, 13, 15, 17, 19, 21. Forsyth Street, 5 to 35. Adam Street, 28, 30, 68, 70, 104, 106. Swan Lane, 45B, 47A, 58. Neston Street, 30. Clarence Street, 35, 36, 38, 41, 47, 65. Albion Street, 135. St. Mary's Church Street, 18. Rotherhithe Street, 146, 148, 150. Lower Road, 3, 5, 7, 27, 29.
Bethnal Green	Chester Place, 4.
Deptford	Evelyn Street, 114, 115.
Finsbury	St. John Street, 133 to 139 (odd), 143, 151 to 173 (odd). Aylesbury Place, 10. Hatfield Street, 37. Lever Street, 81, 85, 93, 95. Central Street, 92, 94, 96, 98, 104. Garden Row, 2 to 22 (even). Clarence Place, 1A, 1 to 11. Richards Place, 1A, 3, 4, 5, 6, 7, 10. Roby Street, 1 to 7, 10, 12, 13, 14, 15. Anchor Yard, 14 to 20, 16A. Goswell Road, 69.
Greenwich	Old Vicarage House, Greenwich. Teddington Place, 1.
Hackney	Mare Street, 136, 152, 152A, 152B, 1 156, 167, 169, 171, 173, 203, 205, 219 219A, 242, 244, 246, 248, 249, 250 258, 258A, 260, 264, 266, 266A. 268, 304, 306, 308, 310, 316A, 320, 326 338, 340. Well Street, 1, 2, 3. Albert Cottage. Jerusalem Square, 1, 4, 5 6.
Holborn	Lincoln's Inn Fields, 50, 55, 58, 61, 70. Gate Street, 1, 17, 20. Little Wild Street, 14, 23, 24 (part of), 25, 26. Wild Court, 15. Great Wild Street, 30, 31, 33 to 37. Sardinia Street, 30, 32, 34, 36, 40, 42, 44. Little Queen Street, 13 to 15, 17, 2 to 27, 30, 31, 37, 38.

Holborn (*cont.*) . Hall's Yard, 1, 3.
Twyford Buildings, 2 to 9, 6a, 7a.
Great Queen Street, 1.
Southampton Row, 14 to 42 (even).
Kingsgate Street, 16 to 37, 39, 43.
Theobald's Road, 89, 91, 93.
Gray's Inn Road, 88 to 94, 88a, 94a.
Leather Lane, 56 to 58.
High Holborn, 111, 113.
Plummer's Court, 1 to 4.
Warehouse, Crown Court.
Portpool Lane, 1, 3, 15, 17.
Half Moon Place, 1 to 5.
Providence Place, 1 to 9.
Union Buildings, 2 to 7.
Union Terrace, 1 to 26.

Islington . . Mayton Street, 80, 82.
Wedmore Street, 2 to 14 (even), 18.
Caledonian Asylum.

Kensington . Kensington High Street, 18, 19, 28 to 50 (even), 56 to 70 (even).
Clarence Place, 1 to 10.
Cousin's Terrace, 1 to 6.
Clarence Cottage.
Brown's Buildings, 1 to 4.
Kensington Place, 1 to 8.
Clarence Mews, 7 to 10.

Lambeth . . Brockwell Terrace, 1, 2.
Brockwell Hall.
Clarence Lodge, Brockwell Park.
Upper Kennington Lane, 226 to 23 (even).
Albert Embankment, 75, 76.
Vauxhall Distillery.
The Distillers' Arms.
Wandsworth Road, 60 to 66 (even).
Ferndale Road, Baths.
York Road, 56, 89, 91, 93, 111, 114 to 190 (even).
Wandsworth Road, 13 to 25 (odd), 31, 33, 35, 41, 43, 43a, 47, 49, 51, 67, 69.
Bond Court, 5.
Wellington Place, 11.

Paddington . Pickering Place, 35 to 38.
Pickering Mews, 11 to 13.

Poplar . . Bedford Street, 26.
Warrington Place, 1 to 6.
Yabsley Street, 1.
Brunswick Street, 16, 128.

St. Pancras . Euston Road, 150.
Grafton Place, 17.
Hampstead Road, 42.

Shoreditch . Goldsmith's Row, 150a, 152, 154, 155, 157 to 165, 167, 169.
Hay Street, 10 to 22 (even).

Southwark . Old Kent Road, 306
Borough High Street, 221, 221b.
Bangor Court, 1 to 13.
Long Lane, 1 to 23 (odd), 21a.
Willmott's Buildings, 1 to 24.
Tabard Street, 1 to 5, 7.
Long Lane, 38a, 40, 40a, 40c.
Long Lane, 12 to 38 (even).
Long Lane, 44, 48 to 72 (even).
Cardol Place, 1a.
Southall Place, 8, 10.
Redcross Place, 1, 2, 4.
Falcon Court, Lodging House.

Stepney . . Burdett Road, 139 to 145 (odd).
Baggallay Street, 8.
Royal Mint Street, 1 to 10, 3½, 8½.
Queen Street, 1 to 3, 5, 8 to 11, 14 to 20.
Little Prescott Street, 1 to 4.
Chamber Street, 48, 49.
King Street, 15 to 18.
Sharpe's Buildings, 10.
Tower Hill, 17, 19.
Victualling Office Square, 2, 3.
Mansell Street, 88.
London Street, 11, 18, 20 to 45, 58, 60, 62.
Rose Lane, 8 to 14 (even).
Horseferry Branch Road, 8.
Butcher's Row, Edwards' Mansions.
Broad Street, 47, 49, 51, 115, 117.
Collingwood Street, 1 to 4.
Narrow Street, 89, 91.
Ropemaker's Fields, 3, 5, 7, 25, 40, 41.

Wandsworth . Trinity Road, 91.
Totterdown Fields, Kinrara.
Clapham Common, The Rookery.

Westminster . White Hart Street, 35.
Drury Court, 18 to 23.
Clare Court, 1 to 17, 13a.
Stanhope Street, 15 to 18, 20 to 25, 31 to 36, 59.
White Horse Yard, 11 to 15, 18, 19.
Eversley Buildings.
Granby Place, 9 to 18.
Drury Lane, 103, 104, 106 to 108, 123.
Holles Street, 23, 26.
Harford Place, 1 to 8, 10.
Clare Street, 21 to 25.
Courtway Half Moon Court, 1 to 3.
Kemble Street, 2 to 28 (even).
Blackmoor Street, 14 to 24.
Nag's Head Court, 3 to 9.
Denham Yard, 1 to 4.
Donham Yard, 5.
Holywell Street, 4 to 14.
Wych Street, 1, 2, 13 to 16, 33, 34, 38 to 44, 46, 53 to 61, 42a.
Clare Street, 7, 12.
Drury Court, 6 to 17.
Stanhope Street, 38 to 52.
White Hart Street, 13 to 15, 20 to 23, 24 (part of).
Strand, 313, "The Coach and Horses," 328.
Danes Inn, 1 to 7.
Newcastle Street, 10, 15 to 17, 22 to 26, 28 to 30.
Catherine Street, 1, 3, 24.
New Church Court, 22a, 23, 23a.
Strand Hotel Buildings, 1 to 11.
Olympic Theatre.
Opera Comique Theatre.
Denzell Street, 6, 13.
Houghton Street, 1, 2, 2½, 3, 23 to 26.
Drury Lane, 52, 52a, 53, 53a, 83 to 92.
Eagle Court, Strand Buildings.
Eagle Court, 3, 5, 6.
Little Catherine Street, 4.
Vere Street, 6, 20, 31.
Two Spies Court, 2.
Gaiety Theatre and Restaurant.
Blackmoor Street, 2, 3.
Wych Court, 3.

WESTMINSTER (*cont.*)
Sheffield Street, 2 to 6, 4A.
Bear Yard, 13A, 14, 15.
Wellington Street, 12 (part of).
Craven Buildings, 3, 4, 6, 9, 10.
Globe Theatre.
Portsmouth Street, 7, 8.
Romney Street, 2 to 7, 9 to 12, 24, 29 to 31, 38 to 40, 42, 44, 46, 62, 64.
Millbank Street, 8, 10, 12, 23, 25, 30, 45, 47, 49, 54, 56, 59, 67, 69, 71, 73, 74, 76, 78.
Tufton Street, 55, 57, 67 to 79 (odd).
Little Tufton Street, 1, 2, 3.
Lane's Cottages, 1 to 4.
Horseferry Road, 12, 14, 40, 42, 44, 46.
Carpenter Street, 1 to 5.
Little College Street, 2, 3.
College Street, 1, 6, 8.
St. Stephen's Mansions, 1 to 40.
WOOLWICH . . Eltham, High Street, 160, 162.

Smoke-abating Fire-Grates.

In *The Lancet* of the 10th May appeared an account of the investigations into the subject of open sitting-room fire-grates, undertaken on behalf of the Coal Smoke Abatement Society by Dr. H. A. Des Vœux and the late Mr. Bryan Donkin. Their object was to discover a grate which would permit the domestic use of smoky coal without the accompanying smoke that is now emitted from the chimneys of private houses. Material to work upon was procured by means of advertisements in two London dailies inviting manufacturers of smoke-abating grates to send samples to be tested, and Lord Esher, Secretary to His Majesty's Office of Works, provided a room where the tests could be properly carried out, and the services of two skilled operatives to conduct them. Reference was made to the results mentioned by Dr. Des Vœux when speaking on the Coal Smoke Abatement resolution brought forward by Sir William Richmond at a General Meeting of the Institute on the 3rd March last.* The replies to the advertisements mostly concerned grates which did not fall within the prescribed limits—viz. an open grate burning smoky coal; six samples, however, were eventually received of the kind the Society were in search of. The experimenters regret that so few manufacturers competed. The Report states:—

> Since so few came forward with suitable grates the results cannot be regarded as comprehensive. It cannot be for a moment asserted that the best open grate in the market has been discovered. All that can be claimed is that certain preliminary results of the highest importance have been obtained, and that it has been shown to be capable of proof that there is a great difference in effectiveness and economy between the various types of so-called smokeless grates, and that it is possible to produce them so as to reduce smoke pollution from domestic chimneys to a great extent while still using ordinary coal and an open grate.

Six grates were tested, each for three days. Every precaution was taken to avoid error, and each grate was tested in exactly the same way. The amount of smoke emitted was recorded by means of a smoke intensity scale or "smoke-shade," as indicating the proportion of unburnt carbon, on a time smoke-chart. It was estimated by a skilled man sitting in a window on the third floor of the opposite house at an angle of about 30 degrees from the top chimney and about 35 feet away.

The experiments are minutely detailed in *The Lancet*, and illustrated descriptions are given of the grates tested. The results are shown in a series of elaborate tables and charts, in which every material fact is recorded, and which show at a glance the order of merit in which the grates experimented upon stand. The experiments conclusively establish the possibility of considerably modifying, if not completely dispelling, the smoke evil which afflicts us. Some of the grates tested diminished the smoke to an enormous extent—one of them, judging by the experiments, reaching almost perfection.† The Society propose to have more tests of the same kind later, when other inventors willing to have their grates tested will be invited to submit samples.

MINUTES. XIII.

At the Thirteenth General Meeting (Ordinary) of the Session 1901–1902, held Monday, 26th May 1902, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 21 Fellows (including 10 members of the Council), 19 Associates (including 2 members of the Council), and visitors, the Minutes of the Meetings held Monday, 5th May 1902 [p. 346], were taken as read and signed as correct.

The following Associates, attending for the first time since their election, were formally admitted by the Chairman and signed the register—viz. Samuel Chesney, Reginald Bertie Rowell, and Edmund Livingstone Wratten.

The decease was announced of Henry Dunkin Shepard, *Associate*, elected 1867 (Institute Silver Medallist (Essays) 1869).

A Paper by Mr. T. H. Mawson, entitled "The Unity of the House and Garden," having been read by the author, and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to Mr. Mawson by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

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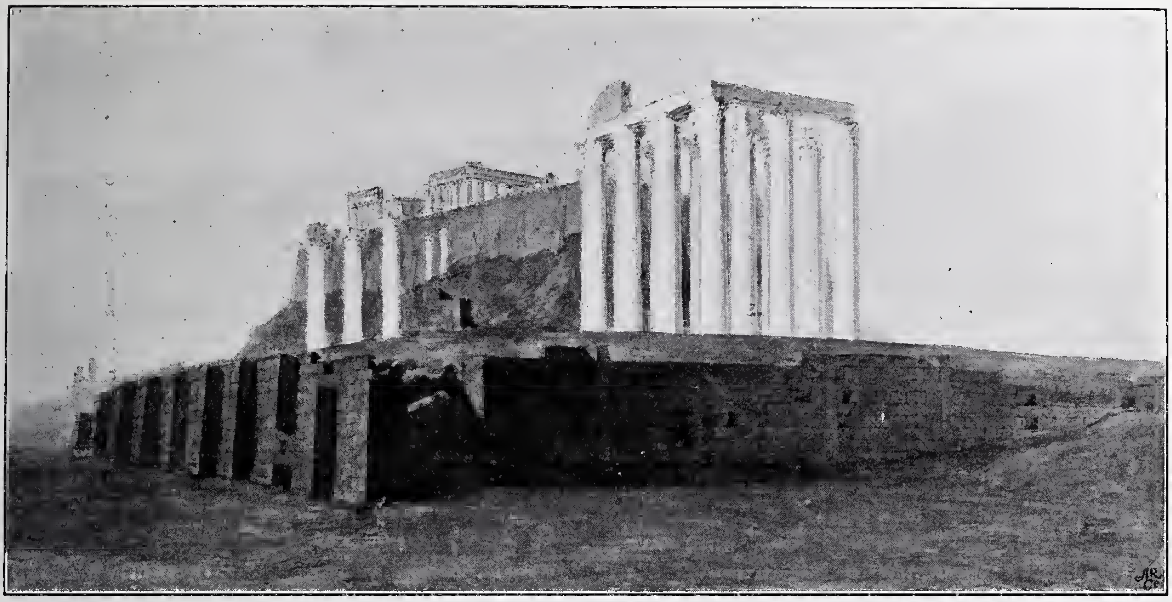
* JOURNAL R.I.B.A., 8th March 1902, p. 221 *sqq.*

† *The Lancet* containing all particulars of the tested grates may be consulted in the Library.



Temple of Jupiter, Athens. From a Water-colour Drawing by Sir Robert Smirke in the Institute Collection.

THE LEARNING OF ARCHITECTURE.—III.

ROYAL ACADEMY LECTURES, 1902.

By Professor AITCHISON, R.A., *Past President, Royal Gold Medallist.*

IN planning we have to get certain rooms of various sizes or certain compartments of a building properly proportioned and conveniently arranged, and of course each room or compartment must be made of such size and proportions as will make it most convenient for the uses for which it is intended. The room or compartment must be well lit, warmed, and ventilated, and of such a height as to allow the occupants a sufficient quantity of air, of which there should be also a continual current. There is a certain residuum required to keep the air sweet, which is as much as 2,000 cubic feet to each person in infectious hospitals, in addition to the constant renewal of the air. It seems most natural that the compartments or rooms should not be of one height, but in houses at the present day uniformity of height is looked upon as an almost essential quality, owing to the inconveniences of going up or down some stairs. The old masters made all their rooms in certain proportions, and the heights in accordance with them, the common rule being that half the diagonal of each room should be given for its height. The effect of this was that the floor above was of various heights, got up to or down to by small flights of stairs, except in those cases where the large rooms below were so high that they would take in two stories. Regular geometrical shapes give architectural distinction to plans. Many rectangular rooms should be varied by octagonal, elliptical, or circular ones for the sake of contrast as well as for convenience.

One of the great difficulties is in getting the aspects that are most suitable to the uses of each room; but for dwellings in streets this is generally impossible. Among the ancient Romans it was of no great importance, as they usually rose at or before daybreak and dined early—three o'clock was the usual hour. It was necessary, however, to study the aspects with even greater care than we have to do now; but even now certain aspects are inimical to the use of rooms for certain purposes. A room for painting must have a north light, as that is the least variable and is not troubled by direct sunlight. In Roman times the north light was used exclusively for picture galleries and libraries. When the house is situated in its own ground a south light is generally preferred for drawing-rooms and nurseries, an east light for bedrooms, and a west light for dining-rooms; but I have known artists who preferred having their picture galleries lit by lanterns all round, because they could obviate the inconvenience of direct sunlight by the use of fine silk or lawn blinds.

The simplest way of getting the arrangement of a large number of rooms, passages, and staircases on a given piece of ground is to cut them out in card and see how they can be arranged; but it requires genius to arrange them conveniently and to make them into a fine architectural plan. In the present day the use of iron has prevented our having to make any arrangement for abutting thrusts, but in ancient Roman buildings, and subsequently in Gothic ones, it was necessary to see how the groined vaults could get their proper abutment. Staircases can make, and have made, a very important and imposing feature in public buildings and dwellings: but since lifts have been invented we must expect to see staircases mostly conspicuous by their absence. But though handsome and effective staircases may disappear I do not see how we can do without them so long as there is the remotest risk of fire.

After more or less disposing of the general arrangement it will be well to go on with the means of natural lighting. It is now believed that almost all the Greek temples were lit simply by the doors, the entrances to temples being generally at the east, because the bulk of the worshippers had to pay their devotions before going to work, and came to the eastern fronts just as the sun rose, when the great statue of the god or goddess was brilliantly lit by the first beams of the rising sun. As a rule in Christian churches the altar was at the east end, and it was important to light the naves well; in late Gothic the whole west end was generally one vast window. In Southwell Cathedral, which is Norman up to the choir, there is one vast Perpendicular window at the west end that fills up nearly the whole space of the nave, the mullions and tracery being extremely slight, so that the window hardly forms any architectural feature at all, from the absence of any solid part in it; in fact, the tracery has very much the appearance of being made of cast iron. The Gothic architects were great inventors, and solved this problem in a way that has astonished mankind; but the crude geometrical forms they mostly used are very offensive to our eyes, being like a child's essay with a bow-pen, but the tracery of some of the leaf-windows at Lincoln [fig. 1, p. 383] is so original that we are not only quite ready to tolerate but to admire it. That affluence of invention and that ability to adopt new forms and shapes is a gift of which the Gothic architects and craftsmen had a monopoly. It is a most fascinating study of a different type of man from those we now have about us, or from any that were common in Europe or hither Asia till the civilisation of the Arabs. There is not the slightest suggestion of it among the Romans, and the first that we see of it was among those who had embraced the new religion of Mahomet, which was opposed to the imitation of any living thing, so that the architects mainly got their architectural forms and decorations from geometrical figures.

If invention were to be had by asking, I should ask for a large allowance of it for the rising architects, as unfortunately architectural invention is not a characteristic of the period. In the present day there is a great demand for new halls of various sorts. Some of these halls are vast, and want a window invented that will throw such an amount of light as the ancient Gothic west windows did, but of forms that are agreeable to our eyes. Sir Lawrence Alma-Tadema has essayed something of this sort with considerable success in the great semicircular window of his studio.

This is not by any means an art epoch, although art is more in the mouth of everybody than, I suppose, it ever was; but our companionship with machinery, which is always hideous, has very much dulled our senses to the charms and the beauties of nature. Yet

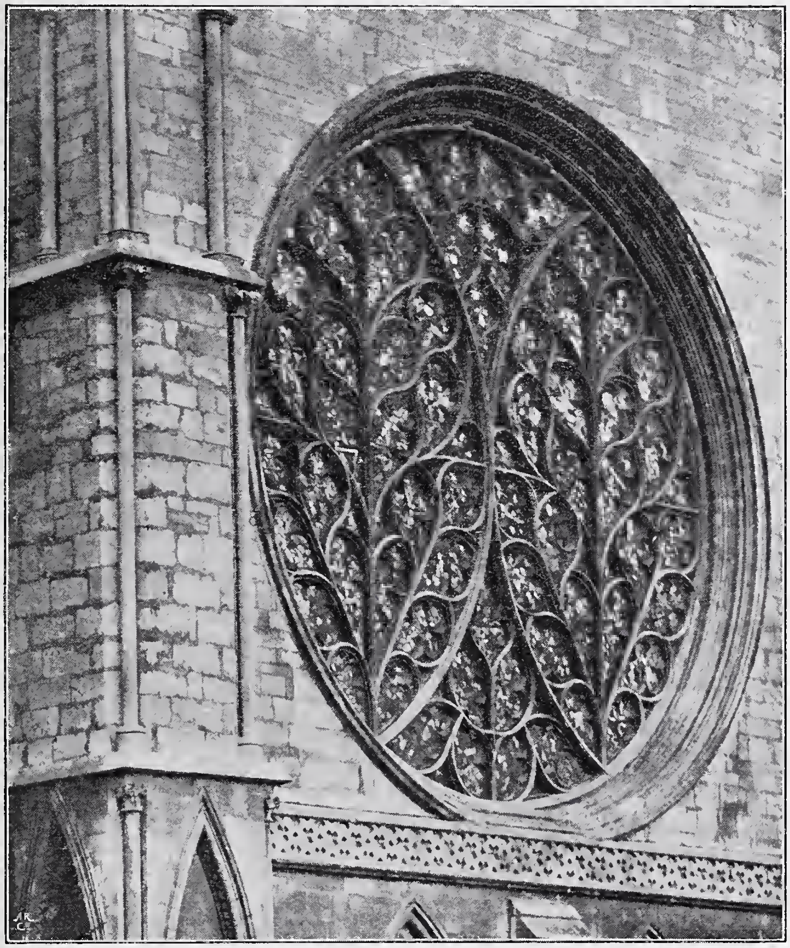


FIG. 1.—ROSE WINDOW, LINCOLN.

beauty is nature's principal means of delighting the human race, of giving it rest after toil, and of purifying it. I fear we may say of ugliness what has been said about vice,—

Vice is a monster of so frightful mien
As, to be hated, needs but to be seen;
Yet seen too oft, familiar with her face,
We first endure, then pity, then embrace.

Ruskin did a great deal to prevent people from becoming so degraded as to have no relish for beauty. He is always pointing to the loveliness of sunrise, to the splendour of sunset, to the starry heavens, to the landscapes, the mountains, the rivers, and the seas, from whose beauties we receive delight. The portrayal of pure landscape is a comparatively modern art, and it is delightful, for those who can afford it, to have the most splendid or most subtle manifestations of nature always about them. Perhaps those moments when nature clothes herself with a rare and fleeting beauty are more congenial to us than those which seem to us more permanent, though everything in nature is constantly changing from sunrise to sunset; they show, too, the great capacity of the artist to recollect these lovely but evanescent effects and to reproduce them for our delight. It seems to me that the highest form that landscape can take is that which is quite independent of associations with human or animal forms. In fact, such is the vanity of mankind or his admiration for his own species that wherever there is a human figure in a landscape it rivets the attention and leads the mind to pursue thoughts of what the figure is about to do, and takes the mind away from the impressions produced by inanimate nature.

I said in my last lecture that architecture was not a copy of anything seen in nature, but that it only took hints from the beauty or sublimity that some of the forms of nature suggest. The question, then, is how we are to evolve something that is at once novel and yet has all the best characteristics of the most perfect specimens of antiquity. I think, therefore, that we cannot do better than follow the example of the poets, who study everything that has been written that strikes them as fine, touching, or impressive; and where they think any particular passage of a deceased author is successful they paraphrase it, even if they stop there, for it is quite evident to persons familiar with poetry that they make use of it freely, and, if you recollect, Sir Joshua Reynolds makes the same remark about painting—there is no harm, but great good, in inserting a piece of some great master's work if when your picture is done you can make it harmonise with the rest. So I think we may safely recommend the architect to have no remorse about adopting features from the old masters of architecture, if he can only keep clear of what is ridiculous and make the rest of his work harmonise with it. If you look about in London you will see bits of the most charming Greek architecture used in modern buildings, but the attempt of the architect to continue the work in the same style is an utter failure: the bits he has taken from Greek work may be the most perfect one has ever seen, while the parts added are coarse and incongruous.

From Gothic times till the introduction of Greek work in the middle of the last century we have very little of first-rate quality in the country, and Gothic is much too strange to assimilate with the cultivation which is now so widely diffused. Greek architecture in England suffers under another disadvantage: it came from a country with a clear atmosphere and a blinding sun—a condition of things that is rarely met with in England; to get out of the heat and blinding light shadow was always grateful, and the alternation of the bright light on the columns and the dark shadow between is a great contrasting beauty. Here we almost always have an atmosphere obscured by mist, and if we want protection from anything it is from rain; porticoes, therefore, are more suggestive to us of damp and discomfort than of gratitude for the shadow, and the Greek mouldings, which are the nearest to perfection for their climate, are entirely deprived of all their charm by misty air; on the echinus of the Grecian Doric we rarely see the half-moon. I have been down the Avenue Road, to the north of Regent's Park, at all times of the year, and some of the houses look very much like Soane's, and are undoubtedly of Greek character; but there is nothing very refined or striking to draw one's attention to them in the ordinary mist of London, and from the soot and dust with which they are smirched the Greek refinements cannot be seen. It so happened that one brilliantly sunshiny day I passed down the street, and one of these houses had just been painted white—the change was marvellous: the tænia above the architrave of the porch has small guttæ under it, and on this occasion the little oval shadows below the shadow from the tænia produced a most lovely effect; but very soon the paint got again covered with soot and dust, and this charming effect was lost, until there was another sunshiny day and fresh painting. In a clear atmosphere porticoes are one of the most effective forms of architecture

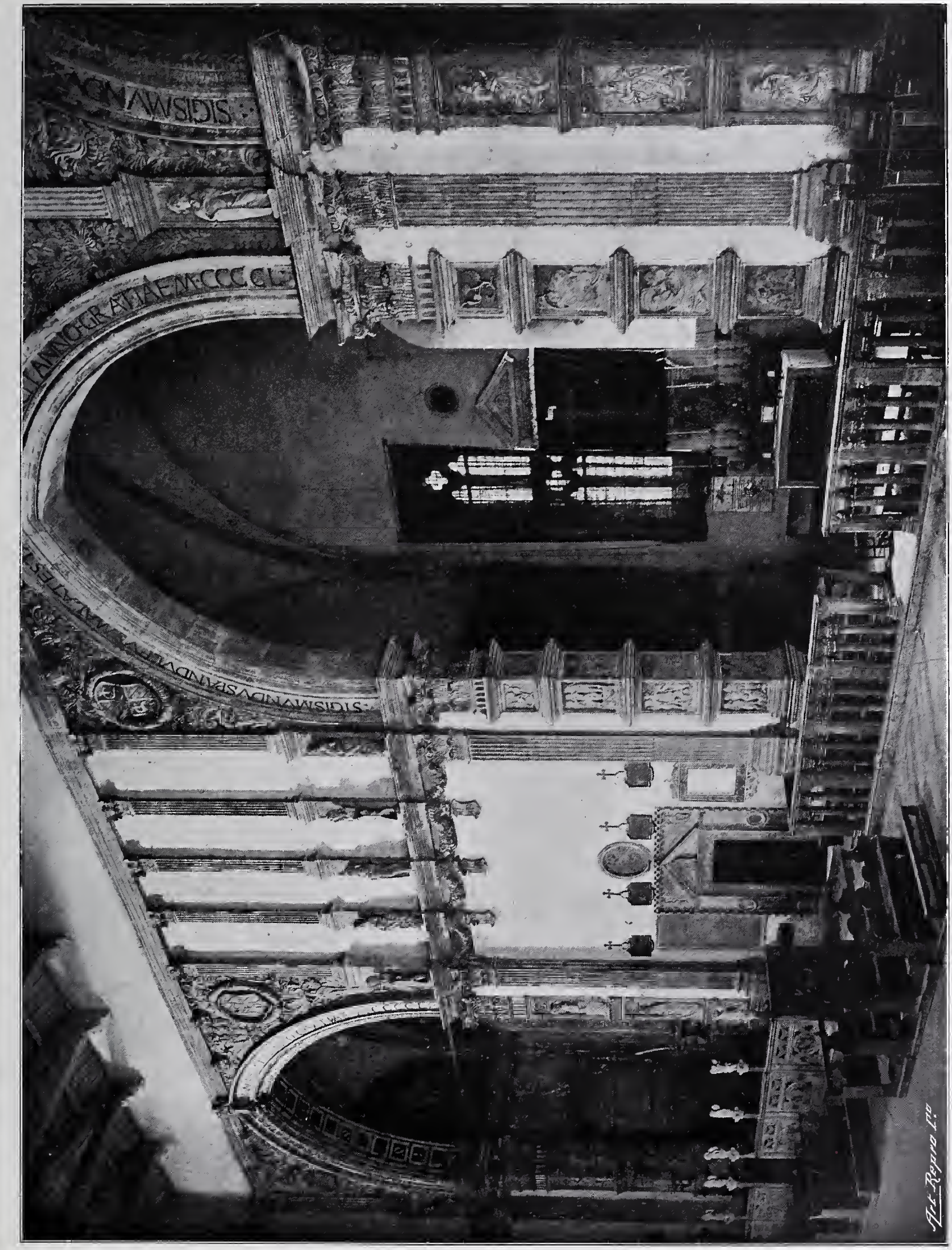


FIG. 2.—MALATESTA'S TEMPLE RIMINI.

—the columns in bright light and at certain times intense shadow between them; but here when it is at all misty you cannot see, from the park gates, which are the columns and which are the intercolumniations in the portico of Marylebone Church. Fine figure panels in mosaic on a blue ground, with the figures not too large, would greatly improve the effect; and so would sculpture in the pediment.

It seems to me that our only way to improve is to draw and then paraphrase portions of buildings that appear to us successful, and try what we can do to fit them for our use and climate. The late William Morris was always lamenting that people did not want what was beautiful, but what was new. Since the days we were at school we have learned that "the human mind is greedy of novelty," and it seems to me to stand to reason: we have neither got the same wants nor exactly the same tastes as our fathers, and though we may not wish to have something quite new, we do want it to have such variation that we shall be able to distinguish the work of our time from that of our predecessors, and that it should be more characteristic, and in some buildings more adapted to raise higher emotions, for architecture is essentially a progressive art.

Architecture is the making of buildings fitted to their purposes and investing them with characteristics that point to their use, and giving them the highest emotional character that is becoming to them; but when we get a building that should be marked by magnificence, dignity, awe, or sublimity, more genius is wanted. Good bas-reliefs would greatly help to show their use, and would make buildings more interesting and explanatory. At the present time the utility of art as a means of teaching the ignorant is overlooked: it is thought only a uxury for the rich who can afford to buy costly pictures and sculpture to enjoy their beauty and skill and refinement, whereas it is still more useful to the poor and ignorant, who can be told at a glance the story of the use to which a building is destined. If our workhouses, reformatories, schools, and hospitals had bas-reliefs showing the benevolent purposes of the buildings, the people would then see what is being done for them. When I was a boy it was only necessary to put a row of columns or pilasters on the front of a building to raise it from mere building to architecture, but now something more is required; in fact columns should only be used where they are wanted. They are not wanted where there is a wall, and if this wall has windows the front looks like a deserted temple that has been built up and used for a dwelling. Pilasters were used in Greek work to mark gracefully the end of a wall, so that when they are set at equal distances they make a palace look like a series of cells.

One of the first things, I believe, that Brunellesco designed in imitation of Roman work was the Chapel of the Pazzi, the outside of which is very fine, and you probably all know that he designed the church of San Spirito at Florence, and afterwards the Pitti Palace at Florence, eventually taken by the Medici; this was merely a rusticated building. His successor, Bernardo Gamberelli, commonly known as Rossellino, who was an architect as well as a sculptor, worked with Alberti; between them they made the first design for the new St. Peter's, under Pope Nicholas V., but the design has been lost, and nothing remains of it now but the foundations for the original main apse of St. Peter's, which was abandoned. It is always difficult with these early Italian architects to know exactly what they did, but Alberti is credited with the design for the front of the Rucellai Palace at Florence; he also built the church of S. Andrea at Mantua, and designed the alterations to transform the old church of San Francesco at Rimini into Malatesta's temple to Isotta. Alberti, and after him Bramante, used the characteristic pilasters of the Romans in their fronts, although they were unequally spaced by Bramante; and there is much grace, some freedom and originality, in their work; but they were still endeavouring to repeat Roman buildings, and as the Codex of Vitruvius was found in 1414 this gradually became the architect's text-book, and the work that was done

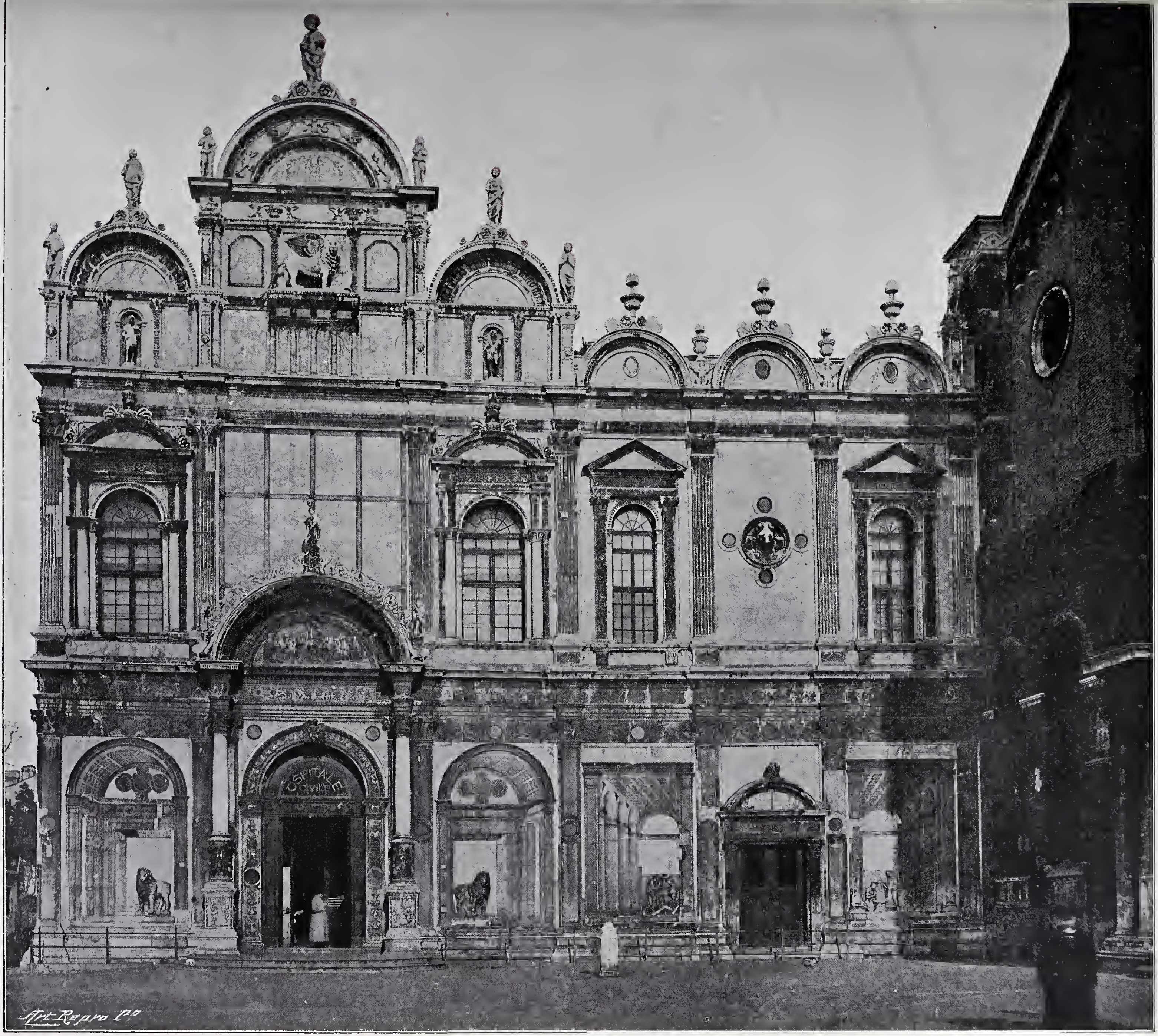


FIG. 3.—LA SCUOLA DI SAN MARCO.

approximated more and more to Roman work. The only architects I know who produced anything like a novel style from Classic were the early architects of Venice, who built those charming churches and palaces, many of which still adorn the Grand Canal, and who pass under the generic name of the Lombardi but I dare say further researches will show that many of the buildings that have been attributed to the Lombardi are by other architects. At any rate, I thought it was important you should see at least a freer style of using Roman Classic than is presented at Florence or at Rome. The Italians, like the Greeks, had much

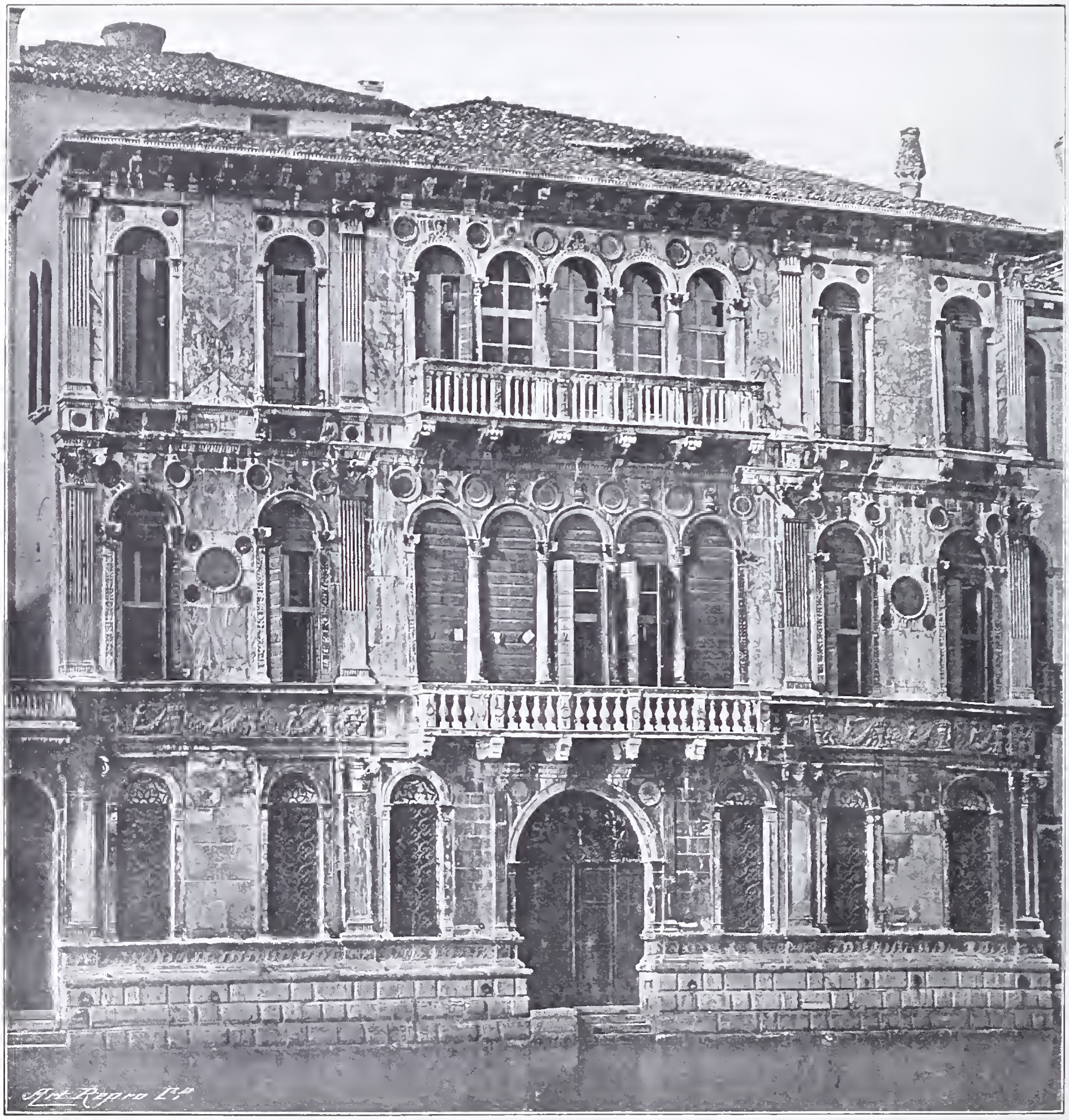


FIG. 4.—PALAZZO MANZONI VENICE.

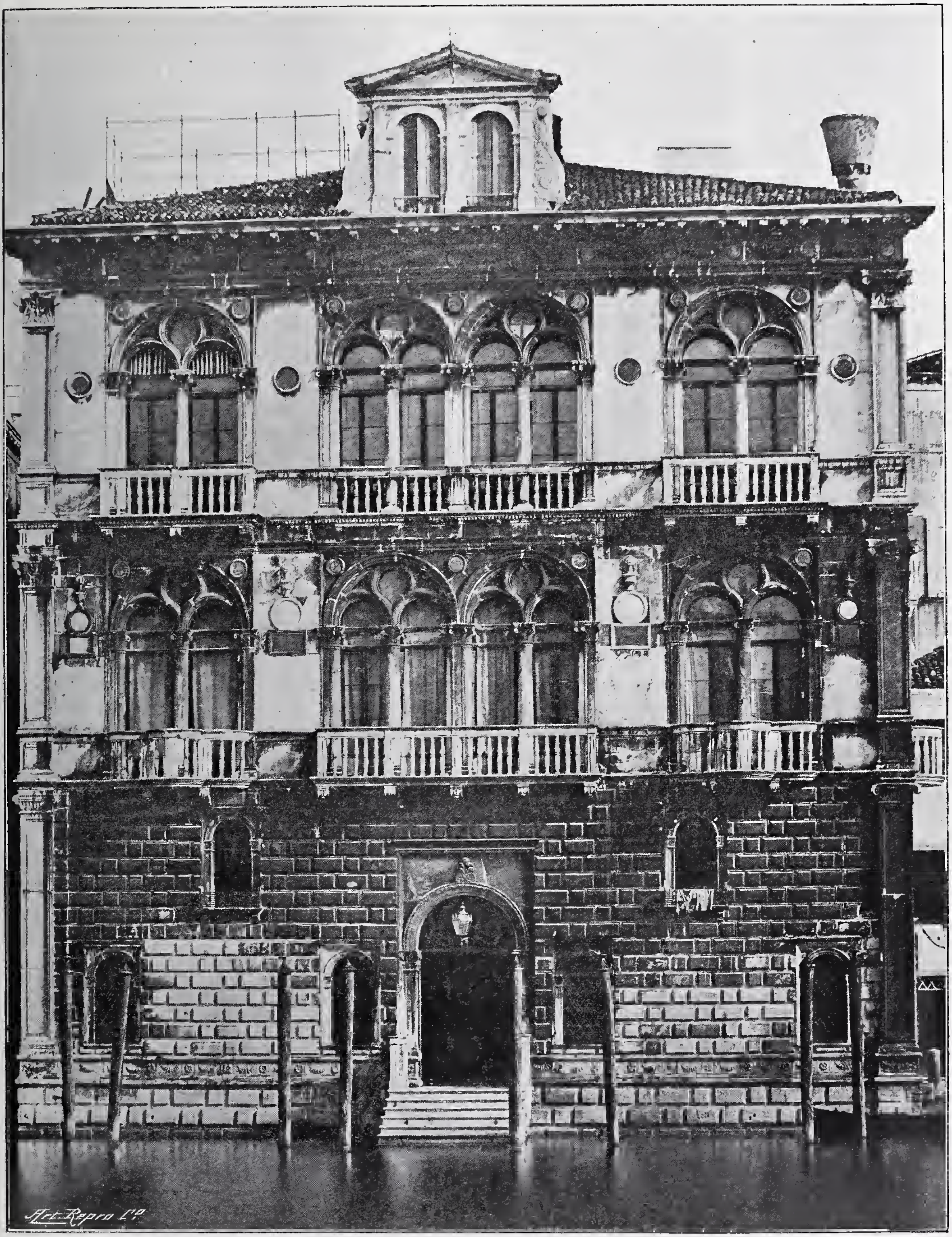


FIG. 5.—PALAZZO CORNER-SPINELLI, ON THE GRAND CANAL, VENICE.

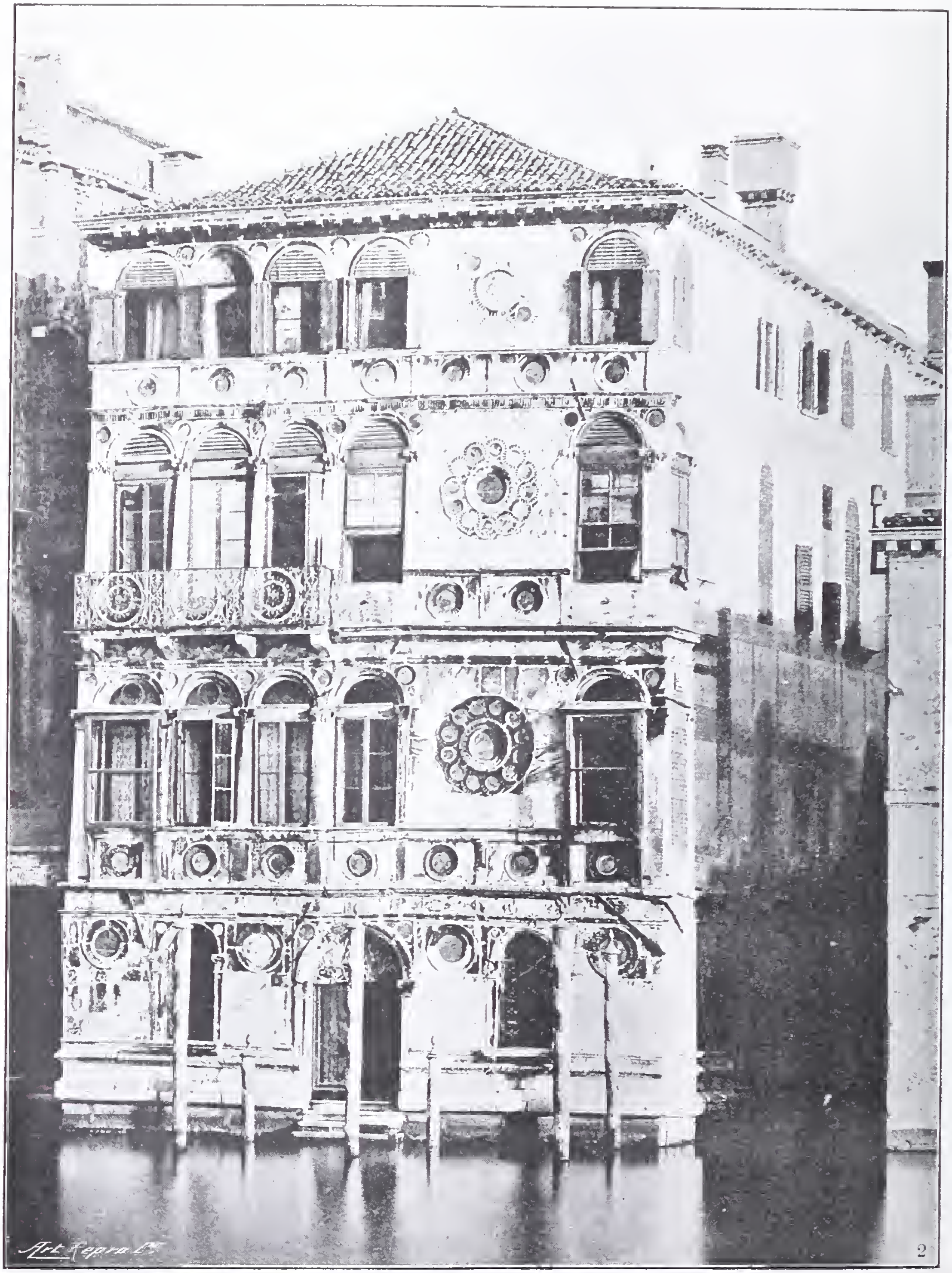


FIG. 6.—PALAZZO DARIO, ON THE GRAND CANAL, VENICE.

more inclination to make architecture and sculpture go together in their buildings than the Romans, for they had many sculptors, which the Romans had not. The originality of these buildings at Venice is very great and very charming, but the passion for it did not last so long as Gothic did, to convert it into a true style; for Gothic had not only a new æsthetic style, but also a new invention in construction, to prolong its life. Even if Gothic had lived for long after it did, it could not be used now as a style, as it does not harmonise with our taste and cultivation, while our advance in science has superseded its construction. It is mere pedantry and incompetence to use discarded construction for the purpose of adopting its ornamentation; in fact, if we are to have any evolution which may be called a new style, it must at least be adapted to the tastes and knowledge of the present day. In Italy, as you know, south of Milan, real organic Gothic never took root and won the admiration of the people. The Italians were artists, but scarcely any of them had had what can be called an architectural education, none of them was in fact a great constructor, if we exclude Brunellesco; whereas amongst the more western nations the constructive skill and the novelty of form and decoration which Gothic possessed were more taking to the inhabitants. As I have already told you, Gothic fan-vaulting, as seen at Christ Church, Oxford, was built as late as 1640, while I think the hybrid French system of Gothic and Classic prevailed in France long before that, but we see in many buildings that the prevailing grace of Classic had slightly touched Gothic building: there is a doorway at Loches that shows it. I have had two photographs of Gothic cathedrals—Notre-Dame of Paris, and Reims—put below that of St. Peter's, and though St. Peter's is a poor design it has what I may call an urbanity about it which these Gothic ones do not possess.

9, Conduit Street, London, W., 14*th June* 1902.

CHRONICLE.

THE ANNUAL ELECTIONS.

The Scrutineers' Reports.

The Scrutineers met at the Institute on Friday the 6th inst. to receive the voting lists and count the votes. The work occupied the whole day, from eleven in the morning till seven in the evening. Their reports were presented at the General Meeting of the 9th inst., and the seals having been broken in the presence of the Meeting the reports were read out by the Secretary, and the successful candidates declared to be duly elected to the respective offices.

The Council.

The Scrutineers of the Council Voting Lists were Messrs. Oswald C. Wylson [*F.*], T. P. Figgis [*F.*], G. Hornblower [*F.*], Albert W. Cleaver [*A.*], and A. B. Yeates [*A.*]. Their report states that 569 papers were sent in, and that three were disqualified for informality. The following are the results of the elections, with the number of votes polled by each candidate:—

President.—Aston Webb, A.R.A., F.S.A. [*unopposed*].

Vice-Presidents.—John Belcher, A.R.A.; Thomas Edward Collcutt; Alfred Darbyshire, F.S.A.; John Slater, B.A. [*unopposed*].

Hon. Secretary.—Alexander Graham, F.S.A. [*unopposed*].

Members of Council [18].—*Elected*: Ernest George, 496 votes; Edward William Mountford, 469; John Alfred Gotch, F.S.A., 452; Leonard Stokes, 443; George Frederick Bodley, R.A., F.S.A., 442; Professor Beresford Pite, 429; William Douglas Caröe, M.A., F.S.A., 415; Edward Augustus Gruning, 414; Paul Waterhouse, M.A., 406; Frank Thomas Baggallay, 401; John James Burnet, A.R.S.A., 400; George Halford Fellowes Prynne, 394; James Sivewright Gibson, 388; Richard Phené Spiers, F.S.A., 386; William Milner Fawcett, M.A., F.S.A., 384; William Howard Seth-Smith, 361; Edwin Thomas Hall, 357; George Enoch Grayson, 354.

Not elected: Alfred William Stephens Cross, B.A., 319 votes; Charles Harrison Townsend, 305; Benjamin Ingelow, 274; Edward Mitchel Gibbs, 257; George Thomas Hine, 254; Ralph Selden Wornum, 251; William Flockhart, 248.

Associate-Members of Council [4].—*Elected*: Henry Vaughan Lanchester, 401 votes; Robert Shekleton Balfour, 342; Edmund Walter Wimperis, 314; Walter John Nash Millard, 269.

Not elected: Samuel Bridgman Russell, 266 votes; Arthur Thomas Bolton, 228; Herbert Winkler Wills, 219; Herbert Arnold Satchell, 142.

Representatives of Allied Societies [9].—*Elected*: Arthur Harrison (Birmingham Architectural Association), 510 votes; Edwin Wortley Montague Corbett (Cardiff, South Wales, and Monmouthshire Architects' Society), 486; George Coppinger Ashlin, R.H.A. (Royal Institute of the Architects of Ireland), 485; Horatio Kelson Bromhead (Glasgow Institute of Architects), 484; Arthur Wakerley (Leicester and Leicestershire Society of Architects), 477; Frank Caws (Northern Architectural Association), 462; Butler Wilson (Leeds and Yorkshire Architectural Society), 458; Charles Henry Channon (York Architectural Society), 457; Henry George Luff (Devon and Exeter Architectural Society), 453.

Not elected: Arthur Clyne (Aberdeen Society of Architects), 430 votes.

Representative of the Architectural Association (London).—Henry Thomas Hare [*F.*], *unopposed.*

Auditors.—Louis Ambler [*F.*]; Hubert Springford East [*A.*] [*unopposed*].

The Standing Committees.

The Scrutineers of the Standing Committee Lists were Messrs. John Murray [*F.*], Alfred W. S. Cross [*F.*], George Sherrin [*F.*], John Leeming [*F.*], Geo. Ernest Nield [*A.*], Frank Lishman [*A.*], Walter Passmore [*A.*], and Arthur Sykes [*A.*]. Their report states that 574 voting-papers were received, and that a certain number (indicated below) were rejected for informality. The following are the results and number of votes polled:—

ART COMMITTEE.

Sixteen papers were invalid, leaving 558 valid.

Fellows (10).—*Elected*: Thomas Edward Collcutt, 528 votes; Henry Thomas Hare, 516; Edward William Mountford, 477; John James Burnet, A.R.S.A., 471; James Sivewright Gibson, 470; William Douglas Caröe, M.A., F.S.A., 457; Andrew Noble Prentice, 456; John Macvicar Anderson, F.R.S.E., 438; George Halford Fellowes Prynne, 433; John William Simpson, 360.

Not elected: Henry Heathcote Statham, 345 votes; George Campbell Sherrin, 321.

Associates (6).—*Elected*: Sidney Kyffin Greenslade, 480 votes; Henry Vaughan Lanchester, 468; Robert Shekleton Balfour, 459; Arthur Thomas Bolton, 456; Edmund Walter Wimperis, 439; John James Joass, 417.

Not elected: Robert Watson, 385 votes.

LITERATURE COMMITTEE.

Four papers were invalid, leaving 570 valid.

Fellows (10).—*Elected* (*unopposed*): John Bilson, F.S.A.; Alfred William Stephens Cross, B.A.; Alexander Graham, F.S.A.; Benjamin Ingelow; William Alfred Pite; George Halford Fellowes Prynne; Richard Phené Spiers, F.S.A.; Henry Heathcote Statham; Charles Harrison Townsend; Paul Waterhouse, M.A.

Associates (6).—*Elected*: Leslie Waterhouse, M.A., 491 votes; Arthur Smyth Flower, M.A., F.S.A., 463; Arthur Maryon Watson, B.A., 455; Percy Scott Worthington, M.A., 437; Professor Ravenscroft Elsey Smith, 412; Charles Herbert Reilly, M.A., 394.

Not elected: John Humphreys Jones, B.A., 320 votes; Hubert Christian Corlette, 312.

PRACTICE COMMITTEE.

Eighteen papers were invalid, leaving 556 valid.

Fellows (10).—*Elected*: Samuel Flint Clarkson, 518 votes; Walter Hilton Nash, 504; Joseph Douglass Mathews, 503; Thomas Batterbury, 502; George Hubbard, F.S.A., 497; Edmund Woodthorpe, M.A., 480; Christopher Harston, 467; James Osborne Smith, 460; Ernest Flint, 456; Frederick Ernest Eales, 433.

Not elected: Charles Fitzroy Doll, 381 votes.

Associates (6).—*Elected*: Charles Henry Brodie, 442 votes; Max Clarke, 436; William H. Atkin-Berry, 436; William Henry White, 419; Herbert Hardwicke Langston, 368; Edwin Richard Hewitt, 333.

Not elected: Edward Greenop, 304 votes; Sydney Perks, 293; Herbert Alexander Pelly, 242.

SCIENCE COMMITTEE.

Eleven papers were invalid, leaving 563 valid.

Fellows (10).—*Elected*: Thomas Blashill, 487 votes; Herbert Duncan Searles-Wood, 472; Frederic Richard Farrow, 444; Edmund Woodthorpe, M.A., 442; James Sivewright Gibson, 440; Alfred Saxon Snell, 426; Keith Downes Young, 420; Francis Hooper, 409; William Edward Riley, 402; Benjamin Tabberer, 366.

Not elected: Lewis Solomon, 365 votes; Ernest Flint, 358; Frederic Hammond, 332.

Associates (6).—*Elected*: Max Clarke, 480 votes; Bernard John Dicksee, 471; Henry William Burrows, 470; George Pearson, 461; Edwin Richard Hewitt, 435; Sydney Benjamin Beale, 419.

Not elected: Henry Robert Perry, 380 votes.

Competitions: Suggestions to Promoters.

The business before the General Meeting last Monday included the consideration of the following alterations proposed by the Council to be made in the Institute Paper "Suggestions for the Conduct of Architectural Competitions" [KALENDAR, pp. 326-329], viz.:—

The following to be inserted as the second paragraph in Clause 1:—

> The selection of an Assessor should be made with the greatest possible care, as the successful result of the Competition will depend very largely upon his experience and ability.

Clause 4 to be amended so as to read as follows:—

> 4.—The number, scale, and method of finishing of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design. If the Assessor advises that perspective drawings are desirable, it should be so stated; and such drawings should be uniform in size, number, mode of colouring, mounting, or framing (if any), &c.

The following to be added to Clause 12:—

> It is important that the award of the Assessor should be adhered to, unless there is some valid objection to the employment of the author of the selected design to carry out the work, as to which the Assessor is satisfied. The setting aside of the Assessor's award for any other reason constitutes a breach of faith on the part of the Promoters.

The PRESIDENT having explained that these proposals were the outcome of the deliberations of a Committee of the Council, and that they had received the approval of the Council, formally moved their adoption and that they be incorporated in the document as proposed.

Mr. H. HARDWICKE LANGSTON [*A.*] objected to the proposed addition to Clause 1 on the ground that it was not stated by whom the selection of an Assessor was to be made. He moved as an amendment that the words "by the promoters" be inserted after the word "care."

Mr. WM. WOODWARD [*A.*] seconded the amendment. There was nothing on the notice-paper to show that these Suggestions were for the promoters, and he thought Mr. Langston's amendment was perfectly reasonable.

Professor BERESFORD PITE [*F.*] having pointed out that the *first* paragraph of the clause clearly indicated that the Suggestions were for promoters, and that therefore the insertion of the words proposed by Mr. Langston was unnecessary, Mr. Woodward withdrew his support to the amendment, which ultimately dropped for want of a seconder.

Mr. A. W. S. CROSS [*F.*] proposed that the following addition be made to Clause 4 of the Suggestions: "The scale of drawings should be one-sixteenth of an inch to the foot for all ordinary buildings estimated to cost more than £20,000; designs for churches, monuments, and other special buildings should, however, be prepared to any requisite larger scale." He urged also that a clause be added to the effect that the Assessor's award should be published within, say, six weeks of the date appointed for receiving the designs.

Mr. H. T. HARE [*F.*] thought it a great mistake to particularise in the manner suggested. If they gave such particulars and directions to promoters, it would be an inducement to them not to appoint an Assessor.

Mr. H. W. WILLS [*A.*] pointed out that Mr. Cross's proposal simply amounted to a suggestion as to the scale which was generally applicable to buildings for which competitions were held. In nine competitions out of ten, competitors were asked for the eighth scale, but a sixteenth scale would be amply sufficient, and would entail much less labour on the profession. It would be a great advantage to them if it could be clearly laid down in the Suggestions that the sixteenth scale was large enough for the great majority of buildings.

Mr. EDWIN T. HALL [*F.*] said he sympathised with those who wished to be protected from an Assessor who might without thought suggest an eighth scale when a sixteenth would be sufficient. He proposed Clause 4 should read as follows: "The number, scale, and method of finishing of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design." Then should come his suggestion to the Assessors: "As a general rule, a scale not exceeding 16 feet to an inch is adequate, except for churches and small buildings of limited area; for large buildings or groups of buildings a smaller scale than 16 feet to an inch would be adequate." Then the clause should conclude as proposed: "If the Assessor advised that perspective drawings are desirable, it should be so stated; and such drawings should be uniform in size, number, mode of colouring, mounting, or framing (if any), &c."

The PRESIDENT said that the proposal appeared to him to amount to simple tautology. The first part of the clause was sufficient in itself: "The number, scale, and method of finishing of the required drawings should be distinctly set forth, and they should not be more in number or to a larger scale than necessary to clearly explain the design." What could be clearer than that? They did not want to tell the promoters exactly what the scale should be. They wanted the promoters to go to the Assessor and ask him.

Mr. HALL pointed out that the whole of No. 4 was a direction to the Assessor in drawing up particulars, so why could they not suggest to the Assessor that, as a rule, a maximum scale should be fixed?

Mr. E. A. Gruning [*F.*] suggested that the size of the sheet of paper on which the plan was to be drawn rather than any scale should be stated.

Mr. H. W. Wills [*A.*] said he was sure a large number of members were in hearty accord with Mr. Hall. The amendment he had proposed, if carried, would be for all purposes the most valuable clause in the whole document. It was urgently wanted. He cared very little whether the other suggestions passed or not; they would not help them much. Mr. Hall's suggestion would have the effect of about halving the work competitors now had to do.

Mr. E. W. Hudson [*A.*] asked if there were any instructions to Assessors in which the suggestion could be interpolated. If this was a matter which it was desirable Assessors should have pointed out to them, why insert it in the recommendations to promoters?

Mr. C. E. Hutchinson [*A.*] said that many public bodies got up their own conditions in their own way, and if they came across this clause in the ordinary course they might probably consider the question as to the reduction of the scale. At the present moment the eighth scale was so general that public bodies seemed to think it was the regular thing, or ought to be, whereas for many cases it was far too extravagant.

Mr. Hare said he sympathised with the idea of reducing the amount of work, but he thought that fixing any scale at all in these recommendations was a most dangerous thing. It only came to this in the end, that each particular case required a certain amount of judgment by a man who understood competitions. If they fixed a scale, many cases would be found in which there were the greatest anomalies—cases where neither an eighth nor a sixteenth would be the suitable scale. In his opinion they ought not to fix any scale at all.

The President, replying to Mr. Hudson, stated that the Council had drawn up a list of Suggestions for Assessors which they sent privately to every Assessor who was asked to act in a competition. One of the clauses was as follows: "In the interests both of competitors and of promoters it is desirable to reduce the number and also the scale of the drawings to a minimum. The drawings required should be carefully and distinctly specified, only those absolutely necessary to explain the scheme being admitted. This will as a rule eliminate drainage, heating, ventilation, foundation, and roof plans. In most cases the plans need not be to a larger scale than one-sixteenth of an inch to a foot. The judging of the drawings will be greatly facilitated by uniformity of size, which should be clearly specified." There were several other suggestions. So it would be seen that the Assessors at any rate had all these matters before them.

Mr. Hutchinson thought it would be as well that promoters should have the benefit of those suggestions also.

Professor Beresford Pite explained that the President was quoting from a document of Suggestions to Assessors which was issued by the Council to Assessors who were nominated by the Institute. It must be obvious that that was a very different document from that which offered suggestions to promoters. The object of the latter suggestions was practically this: The promoters were to appoint an Assessor; but when that Assessor was appointed, the Council thought it desirable that he should act on definite lines—as far as possible, lines that were harmonious—and consequently that paper of Suggestions to Assessors had been drawn up. He hoped the Meeting would be content to leave the matter as it was. The Institute did protect their interests. The Council communicated with the Assessors on these points, and did all they could in the interests of the profession. Let them read Clause 4 over calmly and coolly, with the recollection that behind Clause 4 was this advice given to Assessors.

Mr. Wills: Who may not be consulted.

Professor Pite said it would be found that the Council had done the best thing possible. If the Institute adopted this rule of a sixteenth scale everywhere it would be found to be a greater nuisance and a greater hindrance than they were now aware of. Some architects went in for one class of competition, others went in for another kind; but the Institute had to consider the interests of the whole body—all classes of buildings and all classes of architects. It might be quite true that a sixteenth scale was best in a certain class of building; but it was equally true that it was not the best in others. He thought the clause was drawn in the best possible way, and they would not improve the situation by a definite rule.

Mr. Wills: You can lay down three or four scales that would suit every class of building.

Mr. Mountford: You will hopelessly puzzle the promoters.

Mr. Cross: With all deference, I submit that we who compete are the best possible judges in this matter.

The President: We have all competed in our time, and should be fairly equal judges.

Mr. Hall's amendment, having been put to the Meeting, was voted upon by show of hands, and lost.

Mr. Francis Hooper [*F.*] moved that the words "or framing (if any)" in Clause 4 should be omitted. The less the expenses incurred over unnecessary matters the better. Many Assessors now considered it wise to stipulate the size of the strainers if the drawings were not to be framed; and these Suggestions not being addressed to architects but to promoters the suggestion as to framing the drawings should be omitted.

Mr. Mountford seconded, and after some discussion the proposal was put to the Meeting and carried.

Mr. Francis Hooper [*F.*] suggested that the opening sentence of Clause 2 should read, "The duty of Assessors should be, *after conference with the promoters*,* (*a*) to draw up the particulars and conditions," &c., so that when the paper came into the hands of the promoters, or any body of men intending to invite competition, they would have it put before them at once that the Assessor should have a conference with the committee or with the authorities before drawing up the particulars. It would also emphasise the fact that it is desirable that the Assessor should be the first in the field.

The President thought the suggestion a good one. Sometimes the promoters had an idea that the Assessor was meant to act independently of them altogether. If the words suggested were embodied in the clause, it would show them that the Assessor's business was to follow the views of the promoters and to put them in a proper business-like form before competitors.

Professor Beresford Pite [*F.*] seconded the proposal.

Mr. Hall suggested that words embodying the same idea should come in after the word "reputation" in the first clause, so as to read: "The promoters of the intended Competition should, AS THEIR FIRST STEP, appoint one or more professional Assessors, architects of established reputation, *and should confer with them before any particulars are issued*," or something to that effect. Then a new sentence should begin: "The appointment of the Assessor should be published," &c. This would show the promoters that their initial step is to appoint the Assessor, and then to confer with him before any instructions are issued.

The President and Mr. Mountford supported Mr. Hooper's proposal.

Mr. Hooper went on to urge the omission of the words "and whose decision should govern the selection of the design" at the end of the first paragraph of Clause 1. Coming as it did immediately after the recommendation to appoint an Assessor, he thought it rather too aggressive. He drew attention to the fact that the proposed addition to Clause 12 concluded with this statement: "The setting aside of the Assessor's award for any other reason constitutes a breach of faith on the part of the promoters." That seemed to come much more suitably at the close of the Suggestions than at the beginning. He suggested that there should be only two paragraphs in Clause 2, and that the duties of the Assessor should be put clearly under the two heads (*a*) and (*b*). The first should lay down the preliminary duties of the Assessor—viz. to draw up the particulars, conditions, and instructions; and the second the ultimate duties when the drawings were completed—viz. to advise the promoters of the relative merits of the designs. The present paragraph (*b*) seemed to be rather out of its place; it naturally came under the subsequent paragraph (*c*). If it were necessary to make any reference to designs which did not carry out the instructions, the paragraph should end, "excluding any which do not comply with the conditions."

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* The words in italics are new, as proposed by Mr. Hooper.

Mr. Hall understood that Mr. Hooper wanted to divide the duties of the Assessor in their chronological order. He suggested that that would come in in this way after the word "reputation": "The promoters of an intended Competition should as their first step appoint one or more professional Assessors, architects of established reputation; the Assessors should then, after conference with the promoters, draw up particulars and conditions." Section (*a*) of Clause 2 would thus come into the first clause. He would follow that up by saying "The Assessor's appointment should then be published, after he has drawn up the particulars, in the original advertisements and instructions." Let that be part of Clause 1, but interpolating what is now (*a*) in Clause 2 after the word "reputation."

Mr. Cross seconded Mr. Hall's proposal.

Mr. Hare said it seemed rather a pity to upset Clause 2, which was a clause by itself and contained the duties of the Assessor.

Mr. Mountford was of opinion that it had much better remain as it was.

The President thought it would be an advantage to omit the words "and whose decision should govern the selection of the designs" from the first clause as Mr. Hooper proposed. It seemed to imply that the promoters were to appoint an Assessor at once, and his decision was to be final without any further reference to them. The suggestion that the Assessor's decision should govern the selection of the designs would come in much more naturally after the statement of his duties.

Mr. Langston pointed out that some of these proposals were not on the agenda. Mr. Hooper's suggestion was a very good one if notice had been given of it, but as notice was not given it could not be discussed at that Meeting.

The President ruled that if the amendments proposed by the Council were not approved of, it was open to the Meeting to suggest fresh ones.

Mr. Cross suggested that as many members interested in the question were not present they should have an adjourned discussion on the subject. It was a matter of considerable importance to some of them.

Mr. Wills seconded the proposal for an adjourned discussion.

Mr. Hare said that as Mr. Hooper's proposal to insert the words "after conference with the promoters" in the opening sentence of Clause 2 commended itself to the President, and he (Mr. Hare) had formally seconded it, some progress would be made if the Meeting voted on that point.

Mr. C H. Brodie [*A.*] deprecated the adoption by that Meeting of any of the proposals. He suggested that a transcript of the shorthand writer's notes of the discussion should go to the Committee of the Council which had this matter in hand, and that it should be left to them to deal with the various suggestions. The present Meeting should simply vote upon a sort of abstract resolution; the actual wording should be left to the Committee.

The President: You propose to adjourn this meeting?

Mr. Brodie: No, certainly not; it should be left to the Council to settle.

The President agreed that that would be the wisest thing to do. It was exceedingly difficult to cover every possible contingency, but the Paper as now drawn covered most of them. His attention had not been drawn to the point before, but he quite felt that the first clause was a little peremptory, and likely to give a false notion to promoters. It would be easy to tone it down a little. Also they might draw the attention of promoters to the fact that the duty of the Assessor was to consult with them before he drew up the conditions. Would it meet the views of the Meeting if they omitted the words "and whose decision should govern the selection of the designs," and add, in the first line of Clause 2, "after conference with the promoters," and then go on to set out the Assessor's duties?

Professor Beresford Pite said that he had seconded Mr. Hooper's proposal for the addition to Clause 2; but he could not assent to the omission of the words "whose decision should govern the selection of the designs" in Clause 1.

The President said he would put the proposals to the meeting separately.

Mr. Hooper's resolution—viz. to insert the words "after conference with the promoters" in Clause 2 after the words "The duty of Assessors should be"—was then put to the Meeting and carried, Mr. Langston dissenting, on the ground that the resolution was out of order.

With regard to the second resolution—viz. the omission from the first paragraph of Clause 1 of the words "and whose decision should govern the selection of the designs"—Mr. Saxon Snell [*F.*] having seconded it, Professor Beresford Pite opposed it, contending that when the Suggestions were drawn up this was the one point the Institute was fighting for, and the one point they were bent on getting. He cordially agreed that it should not be expressed in so forcible a way, but he was inclined to think that if the Meeting at once, and without considering its effect, struck it out, they might find themselves in some difficulty. He thought that if they voted Mr. Brodie's suggestion, viz. that the Council be requested to consider the discussion at that Meeting and to re-edit the Suggestions so as to embody the views which had been discussed and expressed, that would be a much wiser course than adopting a resolution excluding from Clause 1 the fundamental principle that they had all been fighting for, namely, that the decision of the Assessor should be final.

The President: The proposal is, not to take it out altogether, but only to take it out of Clause 1 and put it somewhere else.

Professor Pite said he would propose as an amendment that it be referred to the Council to consider the effect of the omission of these words.

Mr. Langston seconded.

Mr. Hall suggested that the omission of these words strengthened the sentence in Clause 5 (*a*), which read: "The author of the design awarded the first place should be employed to carry out the work."

Mr. Woodward thought it very unfortunate if the Meeting proposed to discuss and to alter the original Suggestions. The notice sent to members simply defined certain additions to the original Institute Paper. If members had known that the discussion would degenerate into a discussion of the whole of the original Suggestions, there might have been a great many more present. One concluded from the notice-paper that the original suggestions were to remain, and that the Meeting would only discuss the proposals which had been printed.

Mr. Brodie submitted that it was quite open to the Meeting to refer points to the Council for consideration.

Professor Pite suggested that the Chairman could not decline to take amendments upon the proposals down in the notice-paper, and those amendments were bound to affect other parts of the document.

The amendment that it be referred to the Council to consider the effect of the omission from Clause 1 of the words "and whose decision should govern the selection of the designs" was then put from the Chair, and carried.

The President then read the matter proposed to be added to the last clause, viz.: "It is important that the award of the Assessor should be adhered to, unless there is some valid objection to the employment of the author of the selected design to carry out the work, as to which the Assessor is satisfied. The setting aside of the Assessor's award for any other reason constitutes a breach of faith on the part of the promoters."

Mr. Hall remarked that the expression "breach of faith" was a very strong one, and one that men of position would resent.

Mr. Langston suggested that the words should be, "*might* constitute a breach of faith."

Professor Pite proposed that this point also should be referred to the Council to consider.

Mr. Mountford seconded.

The President said that the omission of the last part of the first paragraph of Clause 1 seemed to hinge upon the proposed addition to Clause 12, and they should be considered together. If, as Mr. Pite proposed, the matter were left to the Council, it should be carefully considered and dealt with.

Professor Pite: Accepting the principle of the amendment?

The President: Yes.

Professor Pite's proposal was thereupon agreed to.

Mr. Hooper asked that as these matters had now been referred to the Council for clerical revision, would he be in order in suggesting the total omission of paragraph 9?

"Each design should be accompanied by a declaration signed by the competitor, stating that the design is his own personal work, and that the drawings have been prepared under his own supervision." Most members knew what it referred to, and why it was put in.

The President said that the whole document had been carefully considered by the Committee and by the Council. He could not take anything that did not hinge on the proposals set out on the Agenda, and he must therefore rule the proposal out of order.

The business then terminated.

The Profession in the Colonies and Trade Commissions.

The following document has been drawn up by the Council, and a copy sent to every member of the Institute practising in the Colonies:—

"Whereas it has been stated on good authority that there is a growing tendency on the part of Architects practising in some Colonies to take a commission from the Contractor as payment for copies of the Specification and the Contract and other drawings, the Council of the Royal Institute of British Architects ask the co-operation of all Colonial Members of the Institute in endeavouring to check this evil, as they are convinced that, if allowed to grow, it is one that must undermine and eventually destroy that feeling of confidence between the Public and the main body of Architects which it is one of the chief aims of the Institute to promote. The Council would point out that the following declaration to refrain from this and similar practices is made by every Member of the Institute before being admitted to its ranks:

"'In consideration of my having been so elected I promise and agree that I will not accept any trade or other discounts, or illicit or surreptitious commissions or allowances, in connection with any works the execution of which I may be engaged to superintend or with any other professional business which may be entrusted to me.'

"If, however, it is the custom in any Colony for the Builder to pay for copies of the Contract drawings, a fixed sum should be charged, and this sum should be stated in the Specification, and should not be in any way in the nature of a Commission.

"The practice by which an Architect holds a Contractor's deposit for work contracted for and then demands a further percentage before granting a Certificate is entirely to be condemned."

The Lighting of the Meeting-room.

The new lighting arrangements for the Institute Meeting-room, which are now complete, called forth many expressions of approval from members at the last two meetings. Mr. H. A. Satchell [*A.*], who at the Annual Meeting a year ago drew attention to the discomfort experienced at General Meetings owing to the glare of the electric light, congratulated the Council at the Meeting last Monday on the very pleasing change that had been brought about. The President expressed his own appreciation of the improvement, and said that the credit was due to Mr. John Slater and Mr. Edwin T. Hall, who had devised and superintended the carrying out of the scheme. With the exception of the dome lights, which are above the eye-line and cause no inconvenience, all the lights are concealed. The lamps, set in large, saucer-shaped, copper bowls which screen them from view, cast a strong light on to the ceiling, which is reflected below. An even, subdued, but amply sufficient light is the result.

Palestine Exploration Fund.

We are asked to announce that the Annual General Meeting of the Palestine Exploration Fund will be held on Tuesday, the 17th inst., at the Royal Institution, Albemarle Street. Major-General Sir Charles Wilson, K.C.B., F.R.S., will give an address on the recent and proposed Excavations of the Fund, illustrated by lantern slides. The meeting begins at 4 p.m. Mr. George Armstrong is the secretary, and the offices are at 38, Conduit Street.

REVIEWS.

GEORGIAN ARCHITECTURE IN AMERICA.

The "Georgian Period," a Collection of Papers dealing with Colonial or Eighteenth-century Architecture in the United States.

These articles and series of measured drawings, sketches, and photographs, many of which have appeared from time to time in the *American Architect*, have now been republished in separate parts, of which nine are in the Library of the R.I.B.A. The first seven deal almost exclusively with the architecture found in America, and it is only in the last two parts that English architecture has been dealt with, though at the same time it is difficult to understand why it should have been included at all in a work treating of the "architecture of the United States." But this by the way, for it would be churlish and hypercritical to find fault with, or to wish for the exclusion of such excellent articles as those by Mr. Paul Waterhouse and the other English contributors.

The work opens with an exhaustive and carefully written article by Olof Z. Cervin dealing with the main characteristics and details of colonial architecture, the national style evolved in America, a perusal of which is not only instructive, but extremely interesting. Mr. Cervin tells us it was not until after 1730, when peace and commercial prosperity set in, that the best colonial work was done; for although much had been carried on in the North and South, the buildings were more for shelter and defence, and did not attempt much in the way of luxury and ornament owing to the troublous times, when the early settlers had to repel the attacks of Indians. In country districts all the early houses were constructed of timber covered with weather boarding or shingles—a fashion that prevails to this day—and only in the larger towns do we find brick employed, and then principally in the formation of chimneys where it was absolutely necessary.

The best and most typical examples of colonial work are confined to Massachusetts and the Northern States, and to Virginia and Carolina in the South—those in the New York and middle colonies are lacking in interest, as they are so cosmopolitan in feeling; but although every detail of this colonial work can be traced to some European influence, yet the general resemblance is slight. Time, distance, and materials all contributed to produce a national style of domestic architecture of great individuality, and which was both dignified and simple.

In looking through these volumes we see that colonial architecture was mainly secular, and that though much ecclesiastical building was attempted it still bore the stamp of the housebuilders, or was a direct copy or importation based upon the corresponding work of Wren and his contemporaries. Many civic buildings were copied from English models, and some of those at Newport were erected from the designs of Peter Harrison, who had been an assistant to Sir John Vanbrugh.

The buildings in New England, the country of the Puritans, are fully dealt with, and their characteristics explained and illustrated by various writers. There is a charming account of a visit to Salem, in Massachusetts, by Claude Fayette Bragdon. Salem is so bound up with memories of Hawthorne, Prescott, and other celebrities that the ghosts of its bygone days of witchcraft and cruel fanaticism seem to haunt its old buildings and streets, and, apart from its architectural interest, Mr. Bragdon's article is fascinating reading.

It is difficult to more than indicate some of the typical buildings illustrated, but the dignified Van Rensselaer Manor House, in Part I., and the Philipse Manor House, with its long low roof crowned with an open balustrade, a feature in this type of house, should be carefully studied: the series of drawings of the interior fittings are well worth attention. The admirable set of drawings of Christchurch, Philadelphia, designed by Dr. John Kearsley in 1720, with its well-proportioned tower, and Old Bellingham Cary Mansion, in Chelsea, Massachusetts, built in 1750, might have been an importation direct from its namesake in England, so full of Georgian feeling is it.

Philadelphia is rich in quiet buildings of the latter half of the eighteenth century, many (but for the invariable jalousies to exclude the sun) being almost replicas of those so often seen in our own country towns. The Pennsylvania Hospital, in Philadelphia, built in 1796, with its long façade of nearly 300 feet in length, is an imposing and well-designed building, the large central block being balanced by the pavilions crowned with cupolas at the ends of either wing. The photographic reproductions do not, however, do it justice.

But it is in the South, in Virginia, the land of romance, where the spirit of the Cavaliers still seems to linger; and in turning over these pages we have a picture brought before us of old-world charm and splendour that is very fascinating. Many of the settlers here were sons of the English aristocracy, who introduced an element of taste and refinement and built comfortable and substantial houses. In the early times, when tobacco planting was the one staple industry, many became wealthy, and filled their houses with fine panellings, tapestries, marble mantelpieces, and plaster ceilings, some of which were imported from England and the Continent, though all the woodwork and joinery was made in the colonies. As in England the doors and chimney-pieces were the main features in the early examples, with classic pilasters, moulded capitals and pediments, &c. In the later work the decoration was based to a considerable extent upon that of the Brothers Adam, and but rarely do we find the French rococo used which was common in this country.

In studying the plans of all these colonial houses one is struck with the importance given to the hall: it had the first and last chance of making an impression on a visitor, and was planned to wear an air of generous welcome. In the houses of the early settlers it was the common gathering place of the family, the room in which the meals were cooked and eaten, where the spinning and weaving were done, and where the household and neighbours came together to enjoy the heat and light of the great fire, and in the later houses it still formed the nucleus of the plan, being a necessity in times when lavish hospitality was the order of the day.

The houses were generally symmetrical, a wing on one side balancing one on the other, with the entrance in the centre covered by a wide piazza or stoep. In the older dwellings this verandah was entirely wanting, and it was not used until its absolute necessity was felt.

In Part VI. there is illustrated, with an admirable series of measured drawings, a typical house of a Virginian tobacco planter, who was evidently a man of culture and wealth. The house—Woodlawn—was designed by Dr. William Thornton, an English gentleman of somewhat unusual attainments, for though he was an amateur he submitted a design for the Capitol at Washington in conjunction with another architect. The plan is most instructive, for here we have a symmetrical lay out. In the centre is the main house of two stories in height, with the hall carried through from front to back, with a wide porch over the entrance. On either side are blocks of one storey in height containing the kitchens and the tobacco offices respectively, and these again are joined to flanking outbuildings by brick walls, pierced centrally by gateways, occupying a frontage of over 270 feet. The house, built in 1799, is of brick and stone, the whole forming a well-balanced group, full of dignity and repose, and is treated in a way that is most harmonious and pleasing.

In Part IX. there is an able and scholarly article by Mr. Paul Waterhouse on the relation of Georgian architecture to carpentry, fully illustrated by photographs and sketches. Apart from the bearing it has upon colonial work, it should be read as an exhaustive and careful analysis of the influence of actual carpentry upon style, and will interest English architects as much as those in the United States.

Mr. Waterhouse traces briefly the evolution of the smaller buildings, in which timber is the chief factor in the construction, and shows how the influence of the carpenter affected the detail and decoration of the later stone and brick buildings.

In an interesting article on the Dutch and German eighteenth-century work in the States, the writer tells us amongst other things that in Pennsylvania, and Philadelphia in particular, the Quakers, who were the connecting link between the farmers and trappers of the interior, performed nearly all of their journeys in the prosecution of their business on horseback or in vehicles, and that along the roads there were numerous inns and taverns, many of which are still standing. These inns were generally kept by English hosts, and the signboards bore names and cognisances just as in this country, and "Red Lions," "White Horses," and "Blue Boars" were common. The "Blue Bell" tavern at Derby, Pennsylvania, which is illustrated, is a good example of a brick building of early eighteenth-century type.

There is also a short Paper on the University of Virginia, by Mr. Theodore H. Skinner, which deals with the work of Thomas Jefferson, the founder as well as architect of the building. Mr. Skinner tells us that Jefferson as an amateur architect was unusually successful, and the illustrations show that he was far beyond many of his so-called "professional" brethren. In the buildings of the University we have the dome used as an external feature, perhaps, for the first time in America. The whole scheme shows an appreciation of monumental planning on a broad scale, with large, simple, and well-defined masses, and the details throughout are all based upon Palladio's works on architecture. Much of the work is still standing, and though the Rotunda and its annexe were burned down in 1895, the architects, Messrs. McKim, Mead, and White, have restored it exactly on Jefferson's lines, and designed the new building to harmonise.

The volumes are so full of illustrations that a mere catalogue of their contents would be but wearisome, and to appreciate them they should be carefully studied, as much of the work is full of quiet suggestion and interest, and we can only express a hope that the publishers will continue the series, especially of the work found in the States. E. GUY DAWBER.

LEGAL.

Contract: Determination of by Building Owner: Architect as Arbitrator: Enforcement of Award.

The cases of *Belcher* v. *The Roedean School Site and Buildings, Limited*, and *In re An Arbitration between the Roedean School Site and Buildings, Limited, and Belcher and others*,[*] being appeals by the Company from two orders of Mr. Justice Bucknill made in Chambers on the 12th May last, were heard in the Court of Appeal (the Master of the Rolls and Lords Justices Mathew and Cozens-

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[*] Fully reported in *The Builder* for 7th June.

Hardy) on the 27th and 28th May. The orders appealed against being closely connected were taken together. The questions for the Court to determine were, first, whether the Roedean Company were entitled to enforce a certain award made under a building contract; and, secondly, in the other case, whether the plaintiff Belcher was entitled to proceed with an action in respect of matters which had been dealt with by the arbitrator and which were the subject of the award in question. The contract, dated 25th February 1897, was entered into between the Company and Messrs. Peters, Peter, & Son for the erection of the Roedean School at Brighton. The amount of the contract was between £43,000 and £44,000. The arbitration clause provided that in the event of any disputes arising between the Company and the builders they should be referred to the architect (Mr. J. W. Simpson), whose decision should be binding and conclusive on both parties. The date for the completion of the buildings was 1st September 1898. There was a power to determine the contract and to take the work out of the builders' hands and complete it under another clause of the contract. One of the provisions which permitted the taking the work out of the builders' hands was in case of an assignment of or charge on the contract moneys without the consent of the building owners. On 28th October 1898 and 14th November 1898 two charges were given on the contract moneys, the first to the Capital and Counties Bank, and the later one in favour of Mr. Belcher. These were made on the consent of the building owners. It appeared afterwards that another had been made of which they knew nothing. The works were not satisfactorily proceeded with, and were not nearly completed by the specified date. The builders got into financial difficulties and became bankrupt. On 1st February 1899, the day they filed their petition, the building owners gave notice under Clause 20 determining the contract. On the same day a receiving order was made against the builders. The building owners took over the works and they were completed under the superintendence of the architect. On 27th June 1901 a final certificate was granted by the architect. That certificate found that about £350 was due to the trustee in bankruptcy of the builders. On 1st July 1901 the solicitors to the trustee wrote refusing to accept the certificate issued by Mr. Simpson on the ground that the builders had a large claim against the Company for improperly determining the contract. The point having been raised, and there being other differences under the contract, the building owners requested the architect to undertake the arbitration in accordance with the contract. The trustee refused to acquiesce in the arbitration or to submit to the jurisdiction of Mr. Simpson as arbitrator. The arbitrator was shortly after served with notice of an injunction, granted by a Judge in Chambers on 8th August 1901, restraining him from proceeding with the arbitration. The ground upon which the Judge had proceeded was on a writ issued on behalf of Mr. Belcher making certain charges against the architect, reliance being placed upon a decision that where litigation was pending between one of the parties and the arbitrator the Court would not allow the matter to proceed. The order revoking the submission was reversed by the Court of Appeal on 4th November 1901. Since the decision Mr. Belcher's action against the architect had not been further proceeded with. The architect went on with the arbitration, and by his award, given on 9th April, found, after allowing for a sum due from the builders to the Company, a balance due to the builders of £779. 1*s.* 8*d.*, and that neither the trustee nor Mr. Belcher had any claim against the Company. On 11th April the Company took out a summons for leave to enforce the award, and on the 14th April Mr. Belcher issued a writ against the Company asking for a declaration that two contracts (namely, that now in question and another not material to the appeal), dated February 1897, made between the defendant Company and the builders, were wrongfully determined and repudiated by the Company, and that the trustee therefore became entitled to treat the contract as rescinded, and to be paid on a *quantum meruit*, and to recover from the Company the value of the plant lying on the site and wrongfully taken possession of by the Company. Thereupon the Company took out a further summons seeking to stay this action. Mr. Justice Bucknill declined to give the Company leave to enforce the award, whereupon the present appeal was brought.

The Master of the Rolls, in giving judgment for the appellants, said it seemed obvious that all parties had consented to the arbitrator exercising jurisdiction to deal with the points which had arisen, and neither Mr. Belcher nor the trustee could now turn round and say that the arbitrator had no jurisdiction, or had exceeded it. He thought, therefore, that the Company should have leave to enforce the award, and that Mr. Belcher's action against the Company should be stayed. The Lords Justices concurred and the appeal was allowed.

Pulling down Premises: Fall of Party-wall: Builders' Negligence: Damages.

APPERLY *v.* MARK PATRICK & SON.*

This was an action brought by the plaintiff, owner of No. 45, Great Marlborough Street, to recover from the defendants, builders, damages laid at £10,000. It was heard by Mr. Justice Phillimore in the King's Bench Division, and concluded on the 29th May. In January 1900 defendants contracted to pull down and rebuild the plaintiff's premises. The contract provided that the defendants were to be responsible for loss, damage, or defects, and were to make good the same, this provision applying not only to the building, "but also to the premises adjoining and contiguous, and also to the property and person." Defendants contracted to pull down, board, and shore up and clear away the whole of the then present buildings, the old party-walls being retained, and were to "effectually shore and uphold all adjoining premises on all sides, consequent on the pulling down, and also to shore, as before, the party-walls and the public way and other works, and to be responsible for the same and make good all damage, if any, and also to be responsible for all injury and damage, not only to property but to persons, and make good any work disturbed to roofs, flats, skylights, or other works of adjoining buildings consequent upon the works." The plaintiff's case was that they did not effectually shore or uphold the adjoining premises, and did not shore up the party-walls, the result of which was that the wall of No. 46, Great Marlborough Street, collapsed and fell down. In consequence of the damage to the adjoining premises, the tenants of such premises brought an action against the plaintiff and defendants, and recovered judgment for £4,286 and costs, which sum plaintiff had paid. In addition to this the plaintiff had expended about £2,389 in defending that action. He also, after the party-wall fell down, had to pay the London County Council £48 for shoring up, and also £36 for architect's fees. In these circumstances plaintiff claimed from the defendants the damages before mentioned.

Defendants by their defence denied that they had been guilty of negligence, and alleged that as they had acted under the orders of the plaintiff's architect in the matter the architect was guilty of negligence in ordering them to do the work in question. Defendants denied that they were liable to pay to the plaintiff the sum of £4,286 he had paid to the tenants of the adjoining property, as they had by agreement with the tenants, at their own cost, made good all loss, damage, and defects to the premises and ways adjoining the property of the tenants. Whilst denying liability, defendants paid into Court £2,701, and said that that sum was sufficient to satisfy the plaintiff's claim, except as to the costs.

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* Fully reported in *The Builder* for 7th June.

Evidence was given that the wall collapsed owing to the action of the defendants and their workmen, and not by reason of any orders given for or on behalf of the plaintiff.

His lordship, in giving judgment, said he had no doubt that the defendants were responsible to the plaintiff under the contract, and he had to consider what was the measure of damages. He was of opinion that there was negligence on the part of the defendants' foreman or bricklayer. No doubt the wall was a bad wall, but his belief was that the final cutting of the holes for bonding brought down the wall. His lordship gave judgment for the plaintiff for the sum he had paid in respect of the wall—viz. £4,286 and the costs—and the costs in the present action, the sum paid by the defendants into Court to be paid out to the plaintiff in part satisfaction of his claim.

MINUTES. XIV.

At the Fifteenth General Meeting (Business) of the Session 1901–2, held Monday, 9th June 1902, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 16 Fellows (including 9 members of the Council) and 18 Associates (including 2 members of the Council), the Minutes of the Meeting held 26th May 1902 [p. 380] were taken as read and signed as correct.

The Hon. Secretary having announced the decease of Coutts Stone,* *Fellow*, elected 1857, it was resolved that the regrets of the Institute be recorded on the Minutes, and that a letter of condolence be sent to his relatives.

The Hon. Secretary announced the receipt of a number of donations of books and pamphlets for the Library [see *Supplement*], and it was resolved that the thanks of the Institute be accorded to the several donors. With reference thereto the Hon. Secretary asked that at future Business Meetings all the books, pamphlets, &c., acquired by presentation or purchase since the previously published list should be laid on the table for the inspection of members.

The Secretary read the reports of the Scrutineers appointed to direct the election of the Council and Standing Committees for the year of office 1902–3, and the candidates reported successful were declared duly elected to the respective offices [p. 392].

On the motion of the President, a vote of thanks was passed by acclamation to the Scrutineers for their labours in connection with the elections.

The following candidates were elected by show of hands under By-law 9, viz.:

As Fellows (3).

HERBERT PHILLIPS FLETCHER [*A.* 1895], Assoc. M.Inst.C.E., F.S.I.

CATHCART WILLIAM METHVEN, F.R.S.E., M.Inst. C.E. (Durban, Natal).

FRANK WORTHINGTON SIMON [*Tite Prizeman* 1887], (Edinburgh).

The following alterations in the Institute Paper "Suggestions for the Conduct of Architectural Competitions," proposed by the Council, were formally moved by the President:—

The following to be inserted as the second paragraph in Clause 1:—

> The selection of an Assessor should be made with the greatest possible care, as the successful result of the Competition will depend very largely upon his experience and ability.

Clause 4 to be amended so as to read as follows:—

> 4.—The number, scale, and method of finishing of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design. If the Assessor advises that perspective drawings are desirable, it should be so stated; and such drawings should be uniform in size, number, mode of colouring, mounting, or framing (if any), &c.

The following to be added to Clause 12:—

> It is important that the award of the Assessor should be adhered to, unless there is some valid objection to the employment of the author of the selected design to carry out the work, as to which the Assessor is satisfied. The setting aside of the Assessor's award for any other reason constitutes a breach of faith on the part of the Promoters.

An amendment moved by Mr. Edwin T. Hall [*F.*], seconded by Mr. A. W. S. Cross [*F.*], that words be inserted in Clause 4 specifying the scale to which drawings for certain buildings were required, was put to the Meeting and lost.

An amendment moved by Mr. Francis Hooper [*F.*], seconded by Mr. E. W. Mountford [*F.*], that the words "or framing (if any)" in Clause 4 be omitted, was adopted.

A resolution moved by Mr. Francis Hooper [*F.*], seconded by Professor Beresford Pite [*F.*], that the words "after conference with the promoters" be inserted in Clause 2 after the words "The duty of Assessors should be," was adopted.

A resolution having been moved by Mr. Francis Hooper [*F.*], and seconded by Mr. A. Saxon Snell [*F.*]—viz. that the words "and whose decision should govern the selection of the designs," in the first paragraph of Clause 1, be omitted—it was resolved, on an amendment proposed by Professor Beresford Pite [*F.*] and seconded by Mr. H. Hardwicke Langston [*A.*], that it be referred to the Council to consider the effect of the omission of those words.

An objection having been raised to the words "The setting aside of the Assessor's award for any other reason constitutes a breach of faith on the part of the promoters," proposed to be added to Clause 12; on the motion of Professor Pite [*F.*], seconded by Mr. E. W. Mountford [*F.*], it was resolved that this point also be referred to the Council to consider before issuing the revised document.

The proceedings then closed, and the Meeting separated at 9.40 p.m.

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* Mr. Coutts Stone was the father of Mr. Percy Goddard Stone, F.S.A., *Fellow*, and the father-in-law of the President, Mr. Wm. Emerson.

The Erechtheion and Caryatid Temple.

THE LEARNING OF ARCHITECTURE.—IV.

ROYAL ACADEMY LECTURES, 1902.

By Professor Aitchison, R.A., *Past President*, *Royal Gold Medallist.*

After Gothic the next great architectural epoch in Europe was the Renaissance. Early in the thirteenth century Niccola Pisano discovered at Pisa a portion of an ancient Roman sarcophagus and imitated it, and thus by studying admirable sculpture he became the founder of the great school of Tuscan sculptors. All the Italian architecture that was not Romanesque had been tinged with a little of the Gothic that sprang up in France, England, and Germany: the Gothic Cathedral of Milan is said to have been designed by a German architect. In consequence of this superior education in sculpture the Italian sculptors were far ahead of the architects. Dante, who gives whole pages of description of sculpture, hardly mentions architecture, but only takes one simile from a corbel.

When Brunellesco, the goldsmith, jeweller, clockmaker, and sculptor, foresaw that the Cathedral of Florence would shortly be domed, he went to Rome and studied the architecture there, and when he returned to Florence he made essays in Roman architecture as well as he knew how, and domed the Cathedral.

The forms of Roman architecture were more in accordance with the tastes of the painters and sculptors, who had been cultivated by the study of the human frame, than Gothic, while this new introduction of Roman work naturally pleased the cultivated population of Florence;

and, beyond its artistic superiority, the Italians had not forgotten that Rome was the mistress of the greater part of the civilised world, and were in hopes, if they could rival or surpass the Romans in poetry, history, painting, sculpture, and architecture, that they might bring back to Italy, or rather to Florence, whose population was the most capable and cultivated of any part of Italy, those powers of conquering and governing that were so marked a characteristic of the Romans; so that Roman architecture, as paraphrased by the Italian artists, not only spread all over Italy, but sooner or later took the whole of Europe captive. But the dream of the introducers of Roman architecture, that they would form a style of their own founded on Roman architecture, was doomed to disappointment, and it was not until a hybrid sprang from Gothic and revived Classic that any originality was imparted to architecture. As soon as the Codex of Vitruvius was rediscovered, Classic architecture was put into antiquarian fetters, from which it has never been freed except when oddity and contortion have prevailed, though the free use of Classic detail at Venice must be excluded from this statement.

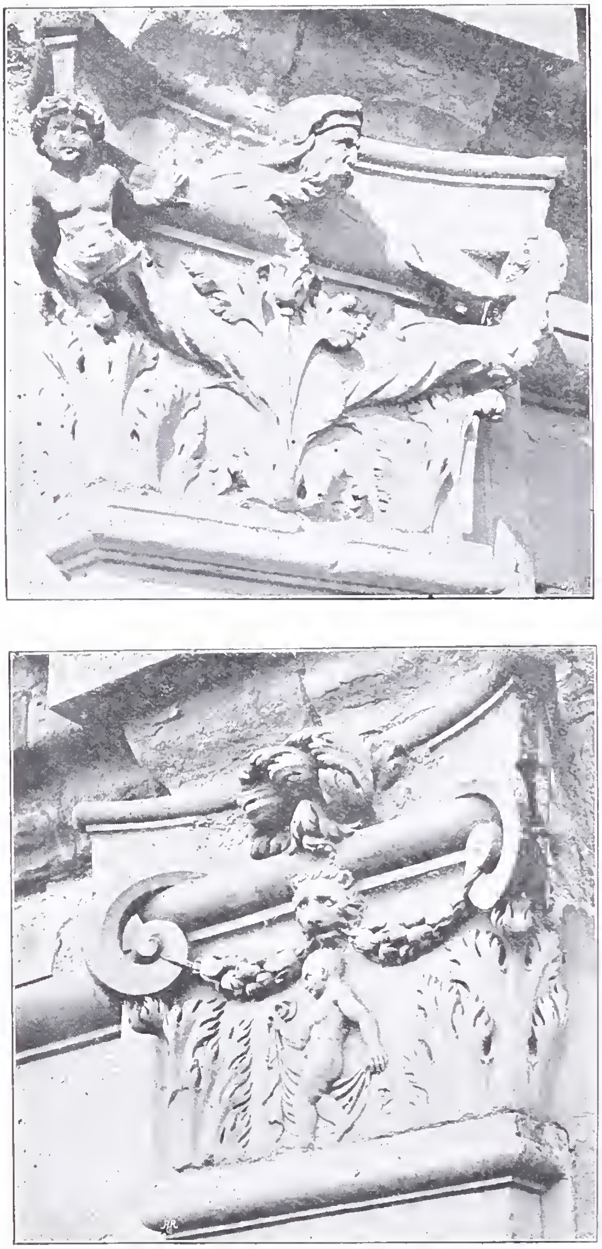

FIG. 1.—CAPITALS, CHÂTEAU DE CHAMBORD.

France seems to have been the native soil on which Gothic first emerged and had been carried to the highest point it ever reached. Most of you know Professor Willis's *Construction of the Vaults of the Middle Ages*, and probably also Viollet-le-Duc's diagrams, in which he shows the lines the masons required for setting out their vaulting, and this vaulting was sometimes elaborate, and of most curious shapes; after the Gothic architects and masons had elaborated the means of setting out these bays of vaulting and also of executing them so that they fitted exactly, it was not in human nature to renounce all this skill and knowledge for the sake of a new fashion, which, too, only partially appealed to the people; the consequence was that a hybrid was formed of the newly revived Classic and the Gothic, which has formed a very marked style in France, of which the Hôtel de Chambord and the Château de Blois are perhaps the two finest examples. I mention Chambord first because that was vaulted with one of those flat elliptical vaults that the French call "basket-handle" vaults.

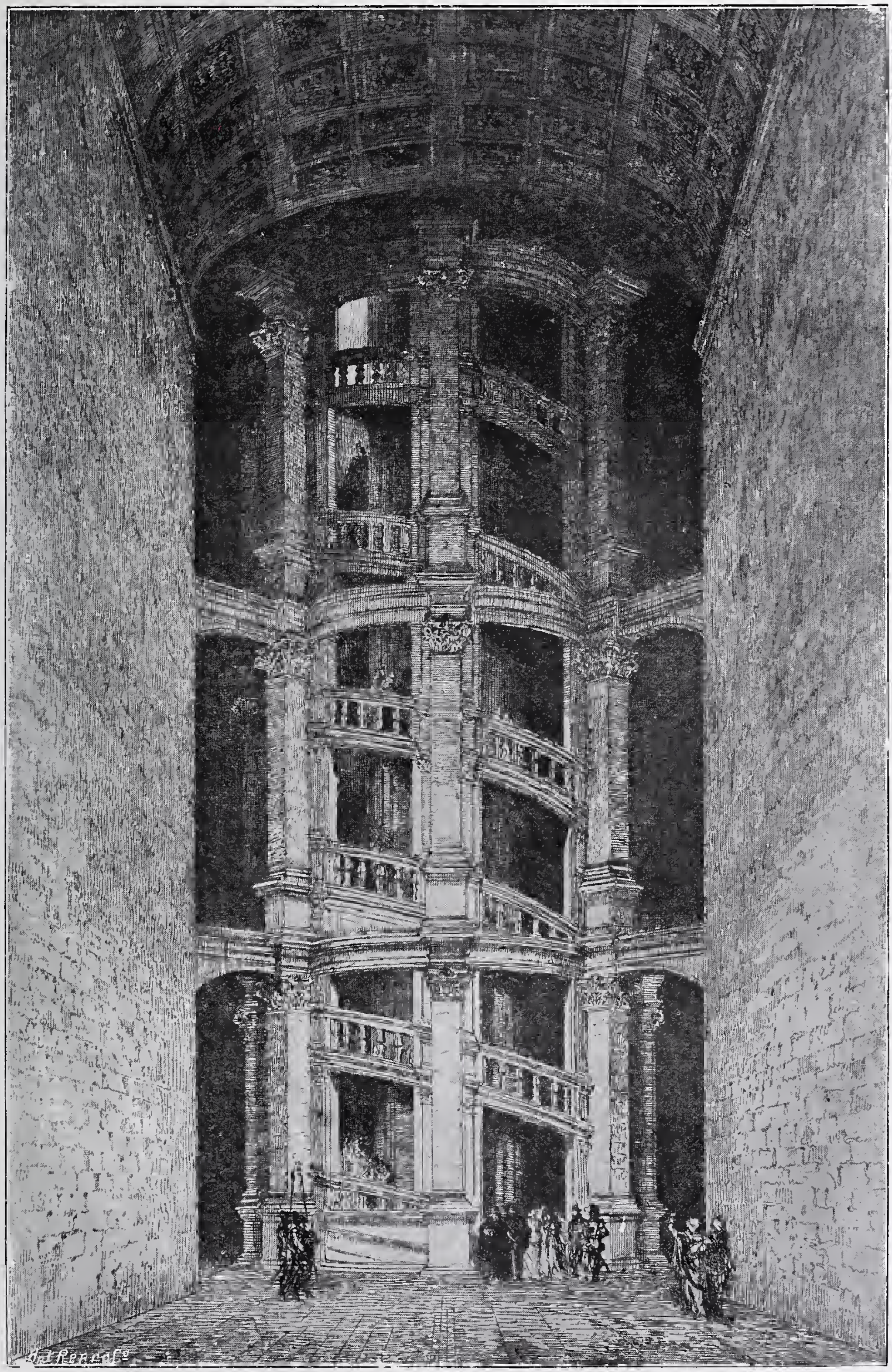

FIG. 2.—VAULTED HALL AND STAIRCASE, CHÂTEAU DE CHAMBORD.

This vault is panelled with sculptured panels, and the caps of the pilasters are very beautiful and original in style. This very slight infusion of Roman Classicality gave a suavity to the architecture, which shows the introduction of a new principle; but this I think mainly applies to work that is not ecclesiastical; this hybrid style was tried on some of the churches, but was a conspicuous failure. It seems odd when you are in the courtyard of the Château de Blois to find this very picturesque fusion of Gothic and Classic superseded by the dulness of the pure revived Classic by Mansard (1598–1666); but no doubt the stately dulness of revived Classic met the desire of the people of those days and was preferred at the time to the picturesque irregularity of a more artistic time.

I am afraid the dictum of Sir Joshua Reynolds, that by studying the inventions of others we learn to invent, is not strictly true; it may stimulate the invention of the inventive, but I fear it will not teach uninventive people to invent. I recollect when I was attending Professor de Morgan's mathematical lectures someone asked him if he could tell him how Napier discovered his bones. (You probably know that one of Sir Walter Scott's heroes was always swearing "by the bones of the immortal Napier"; it was Napier who discovered logarithms, and these were inscribed on pieces of bone.) De Morgan said, "I should be a much greater man than I am if I could give you a rule for making inventions"; and I am very much in this position with the highest part of architecture, which is invention, and which I fear is not to be taught. The thing is to discover the person possessed of architectural invention, and then he or she can probably be taught the best way of using and refining inventions and making them desirable to contemporaries. And that is all I can pretend to do. Probably the English nation has natural proclivities that make it affect one form of invention rather than another, whether the new invention should take the most exquisite simplicity of Greek, the rich magnificence of Roman, or complexity, like late Gothic or Saracenic art.

The excellence to which any of the fine arts arrives greatly depends upon the cultivation of those who love it, *i.e.* the amateurs, and the prevalence of the taste of these lovers in one direction or another. Unfortunately in our own day there seem to be no lovers, so it is difficult to hit the desires of those who are without taste; those people who have the means of indulging in architecture seem to think that their best chance of getting something that they like is by trying every phase of the art that has ever existed, and I suppose the only method that can be adopted to counteract this wholesale copying—which must necessarily be bad, as it does not represent the taste or capacities of the present day—is for the architect to take the high position that is taken by the other "makers," poets, painters, sculptors, musical composers, and writers, and refuse to do any other work but his own.

There can be but little doubt as to the proper way of proceeding with regard to any building: the size and shape of the rooms and corridors required should be the first consideration; in England the most ample light should be provided that the situation allows, sufficient air-space should be secured for the possible occupants of each room; provision should be made for continuous ventilation and means of escape for the fouled air; all parts should be healthfully warmed, the passages should be ample and well lit, and there should be convenient lifts for getting to the different stories. It is true that even if the power for the lifts were supplied at a very low cost we must, for the poorest class of habitation, content ourselves with a staircase; and we could hardly bring ourselves to consider with satisfaction the abolition of staircases even in mansions or public buildings, not only because well-designed staircases are perhaps the most striking features in mansions or public buildings, but because of the fearful risk of fire. At the same time we must consider that the severe labour of going up and down many stairs would be saved, and some extra vigour would be left to persons when the labour was avoided. At present, when most private houses and a good many public

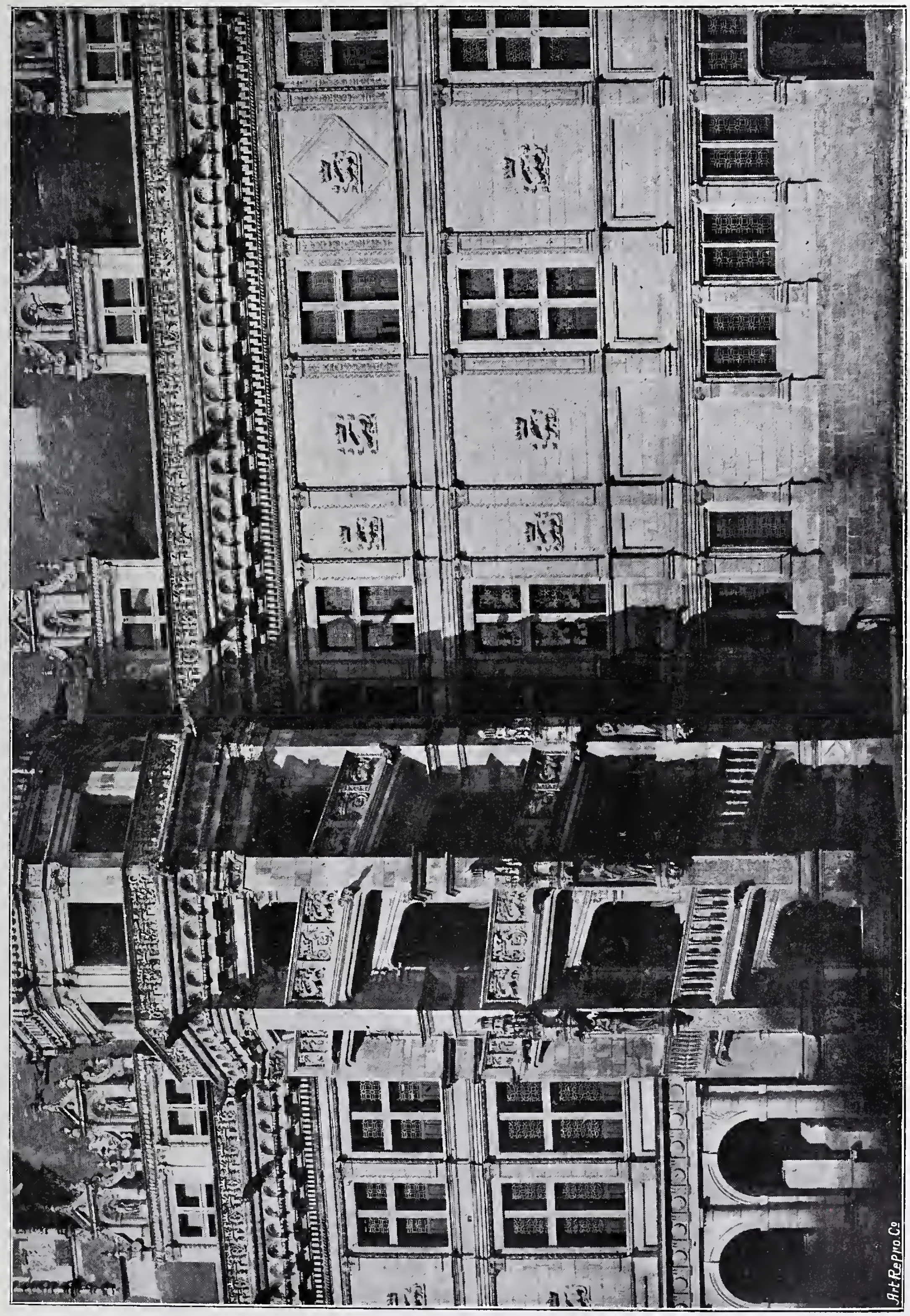

FIG. 3.—CHÂTEAU DE BLOIS: STAIRCASE FROM THE COURTYARD.

buildings are not built of incombustible materials, or, even if so built, there is much inflammable furniture contained in them, we must have staircase room to avoid the risks attendant upon fire.

If we endeavour to carry out the deduction from the animal creation that beauty depends on each part of the animal properly discharging its function, it may help us a little; but I am afraid that there is a good deal more than that wanted. In the present state of our knowledge we have gone back to the lintel construction of the Greeks, from having at our command wrought-iron girders. It is needless to say that if we had been blessed with that facility of invention which characterised the Gothic period we should have long ago had a style in which iron and steel were the materials, instead of brick or stone. One thing we have at our command, moulding, which Viollet-le-Duc declared was architecture. The Greeks were not only the first but the finest designers of mouldings that the world has seen; the architects took advantage of their atmosphere and sunshine to play every variety of tune on the mouldings. Next to them the Gothic architects were the most logical, for as Gothic was mostly developed in countries where mist prevails, they had to make their mouldings in such a way as to show what they wanted in spite of the mist; they not only used sharp arrises succeeded by deep undercuttings to get an effect, but they also supplemented the lights by making projecting arrises on the shafts of the columns. In some of the early Lombardic or savage architecture of Italy great effects are got by bas-reliefs on a dark ground, or *vice versâ* (see San Michele, Lucca), and this could be used with great effect in English buildings if decent sculpture were to be had at a less prohibitory price, and it is here that the study of old examples is most valuable. The poets always read as much poetry of the highest sort as they can, so as to know how to meet the exigencies of expression, rhythm, and rhyme. We must learn to get our effects by using the ordinary methods of construction, but we must be careful to make those effects in accordance with the cultivation of the day. I suppose there is always a certain amount of invention in the world, although there may be very little of it now as compared with the affluence of it in Gothic times; and we have for some hundreds of years been almost entirely devoted to copying, which gives no scope for improving what little invention we have. And when I speak of invention I mean architectural invention, for I suppose there never was so much mechanical invention in the world as there is now; but of course if we never use what architectural invention we have it will shrink away, like the wings of the apteryx, which, I suppose, were once large enough to carry its heavy body in the air, but from want of use they are now shrunk to the size of your thumb-nail.

Those of us who happen to be architects should devote ourselves to Architecture with the greatest self-denial, and look for fame if we can soar no higher, though it will be better if we only think of handing down a testimony of our age to future generations for their respect and admiration. Mark Pattison said that Milton got for that inimitable poem "Paradise Lost" merely the price of waste paper; but who would not be Milton? My suggestion is that after you have learned to construct and to draw the human figure you should endeavour to make your building as simple as possible, but with every part in harmonic proportion, and where ornament is required it should be the best figure sculpture that can be obtained. When you examine the front of the Parthenon you will see that there are very few mouldings in our sense of a curved surface; everything above the columns is generally square. As far as I recollect there is only one little bead moulding carved with the bead and reel till you come to the cymatium of the corona, which is a hawk's bill or drip stone; this hawk's bill is carried under the corona of the sloping sides of the pediment, the mutules being omitted; an ogee forms the bed mould of the sloping corona, and above the sloping corona is the crowning flat ovolo capped with a narrow fillet, the bottom of the ovolo being set back behind the face of the corona to get a sharp

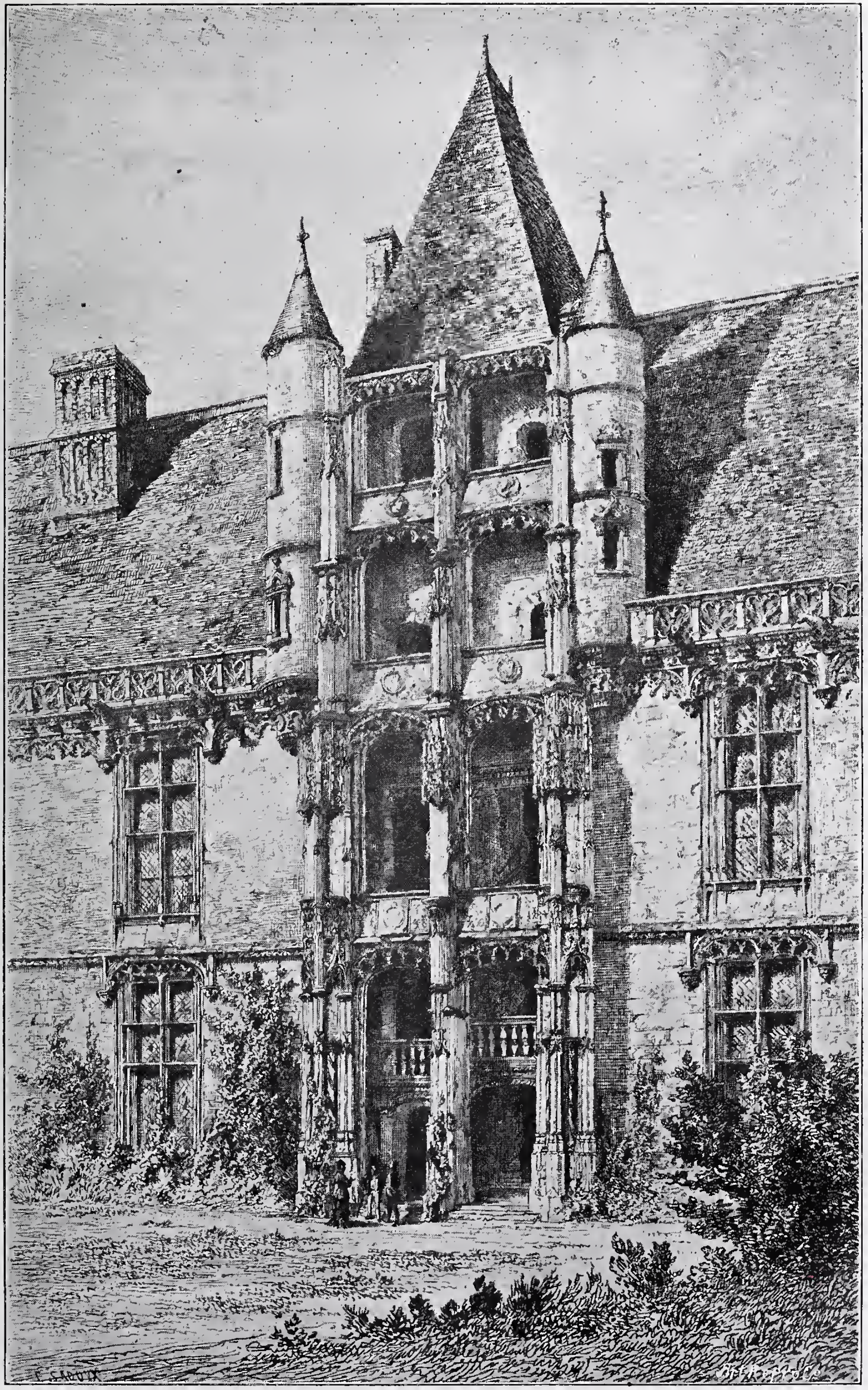

FIG. 4.—STAIR OF HONOUR, CHÂTEAUDUN.

shadow; the lovely curve of that ovolo is enhanced by the painted Greek honeysuckle. I may here say that this ovolo is segmental, most Greek mouldings being conic sections. There are, it is true, guttæ under the triglyphs, and under that clear sky of Greece, with its blinding sunshine, they make lovely shadows on the architrave below; there are also guttæ under the mutules, and the architrave was enriched with round golden shields. This squareness and straightness give great dignity, and are contrasted by the vertical circular columns below, the horizontal lines of the architrave and cornice, and of the steps, making strong and repeated contrasts with the conical columns; in fact, we have every possible contrast, and all the deep shades and even part of the shadows are penetrated by golden reflections from

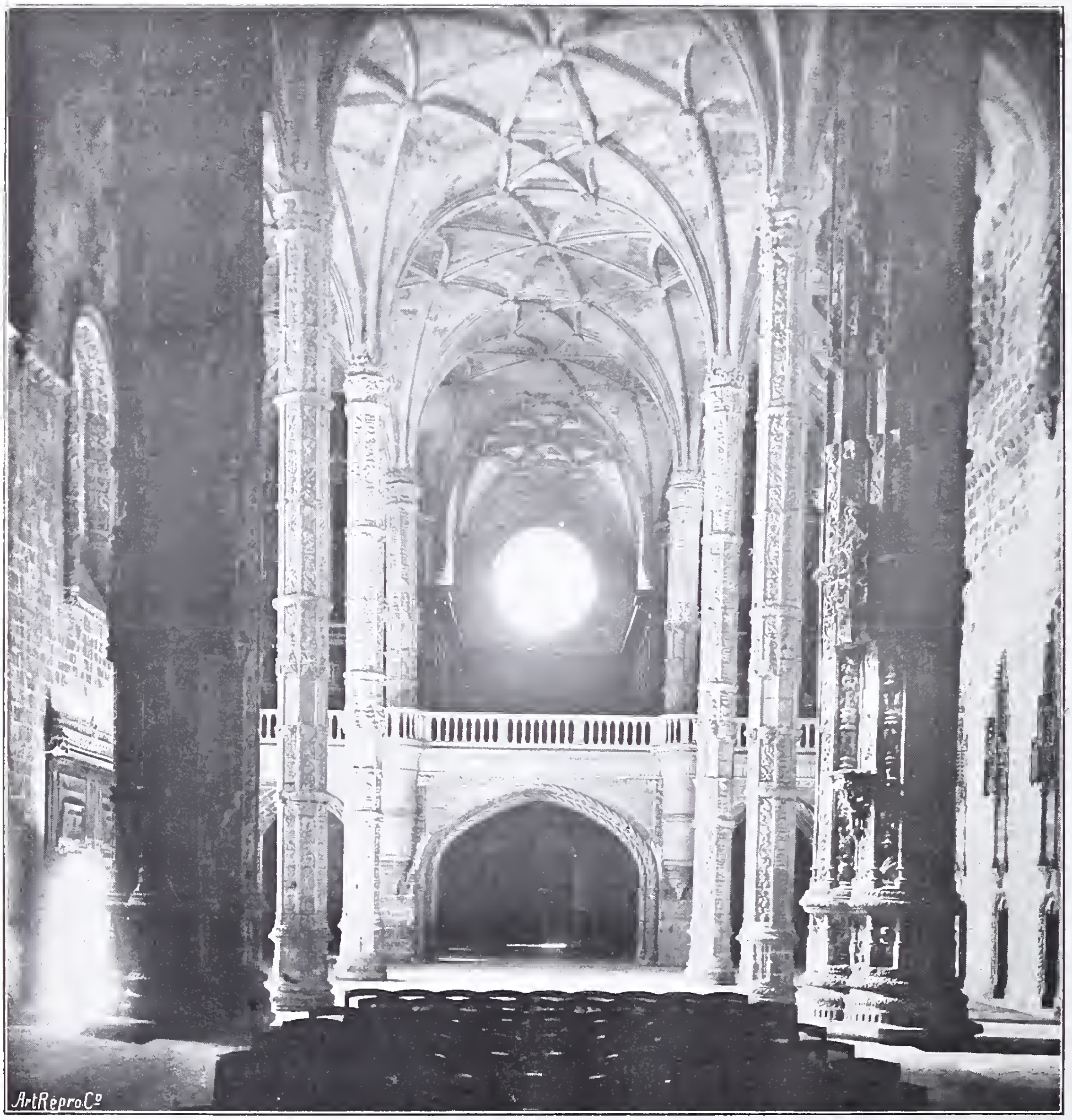

FIG. 5.—BELEM, PORTUGAL: INTERIOR OF THE CHURCH.

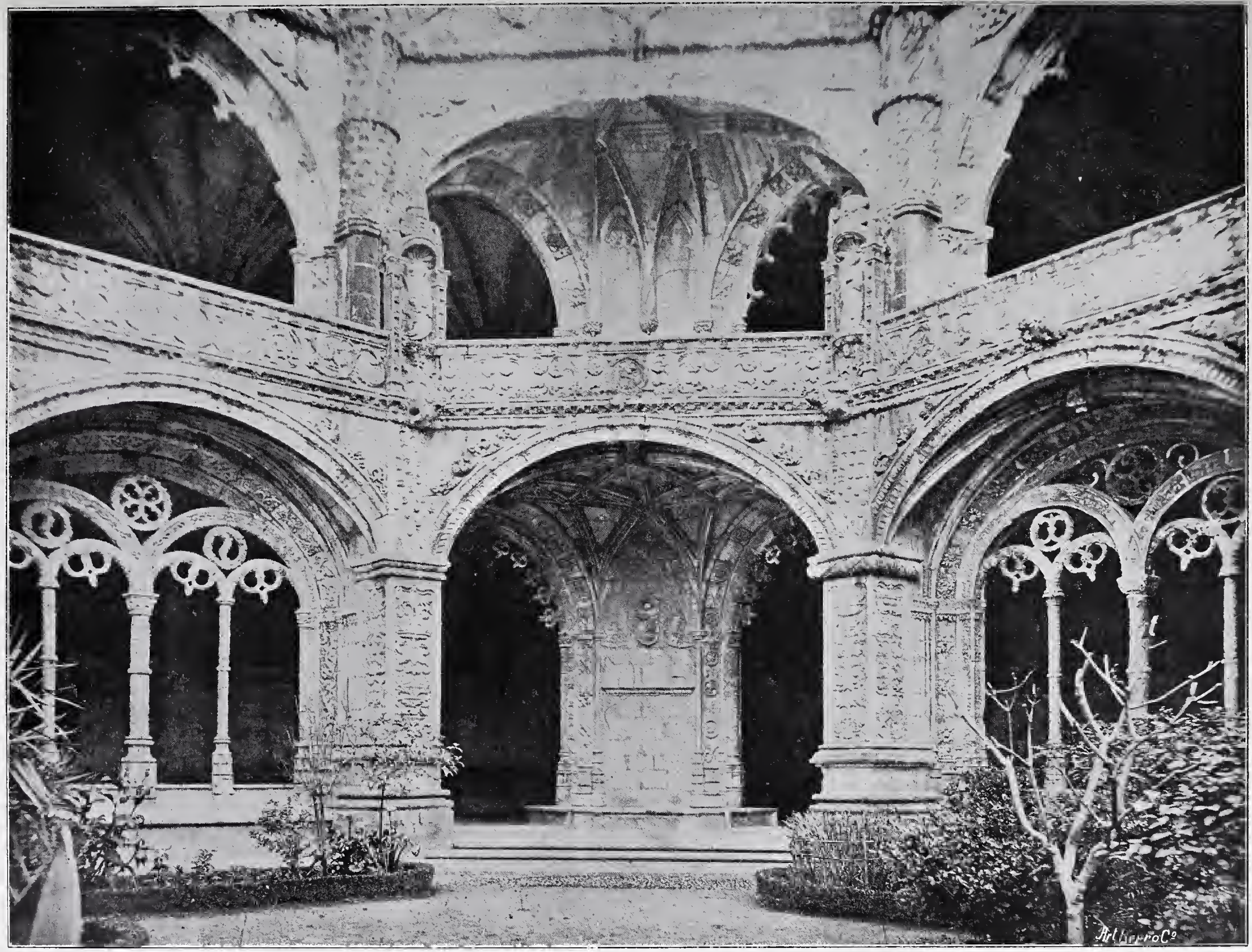

FIG. 6.—BELEM, PORTUGAL: CORNER OF CLOISTERS.

the plain surfaces. Porticoes in England are generally a mistake, for we very rarely want shelter from the sun, and for a considerable portion of the year the misty atmosphere renders the voids between the columns indistinguishable from the columns themselves. Our buildings, too, usually require height, as land is costly in London and in flourishing towns; the whole front of the Parthenon, up to the top of the pediment and including the three steps, is only about sixty-two feet from the ground, so that in our tall buildings there is no lack of space for invention if we had the invention to bestow.

It is not very much use explaining all the beauties of Greek architecture in its own country, as the difference of climate alone requires a different treatment, and has to be got by other means; besides this, it is absurd to try to make ourselves into Greeks, and still more foolish to attempt to copy Greek forms, when our thoughts and habits are so different. I merely enlarge upon some of the features of Greek architecture, and the perfection to which they were carried, for the purpose of directing your attention to the advantage of studying them; but both the forms and the methods must be adapted to our climate. Charles Garnier, in some hints he gives to travellers in Greece, recommends them to take a soft felt hat, for he says it is not only convenient, but when you are put into a large room to sleep, with only a small hole in it which answers the purpose of a window, although it may be sufficient for light in the daytime, it is apt to admit too much cold air at night, and the felt hat may be stuffed into the hole. Now here, on the contrary, we as a rule want all the light we can get, and if it were not for the danger of fire spreading we should undoubtedly make the whole front of a house into one continuous window. Well, this circumstance alone would cause a very different proportion between the voids and solids, and from the mistiness of the climate it is very difficult to get any breadth of light or any depth of shadow. The Greeks had studied all the methods of obtaining shade and shadow, and were the first to adapt their mouldings to their sunlight, and to arrange them in logical order. After them the Gothic architects made their mouldings effective in their misty climates; but they neither had the abilities of the Greeks, nor was their taste so highly cultivated, but where they wanted to get a shadow they deeply undercut all their mouldings. It may be said as a rule that since Gothic times no trouble has been taken with mouldings to get them to tell the story; our mouldings have been mere copies of Roman mouldings, and in Rome, certainly after the Golden Age, no trouble was taken with them. We seem to be a not very tasteful people, and in the present day when there is so much machinery about to replace the natural beauty of the horse and to supply its place with every form of ugliness, we can hardly expect that we can get much help from our fellow-citizens. The architect who is a real poet, where shapes and light and shadow have to stand in the place of words for raising the proper emotions, should picture to himself what effects he thinks proper for the purposes of the building, and carry those out to his own satisfaction, or that meed of satisfaction that we must generally be satisfied with; probably this will at first cause repulsion to the onlookers, who have been accustomed to something else, but if it be really good it will gradually supplant all the copies or paraphrases of old buildings and start a new epoch in the art. But this evolution must not be the crude vagaries of an ignoramus, but the well-weighed evolution of a man versed in all the arts of his predecessors.

The first published works of Wordsworth and Tennyson were treated with ridicule and contempt; some of you may recollect the lines in *English Bards and Scotch Reviewers*—

> Next comes the dull disciple of thy school,
> That mild apostate from poetic rule,
> The simple *Wordsworth*, framer of a lay
> As soft as evening in his favourite May,

. . . .

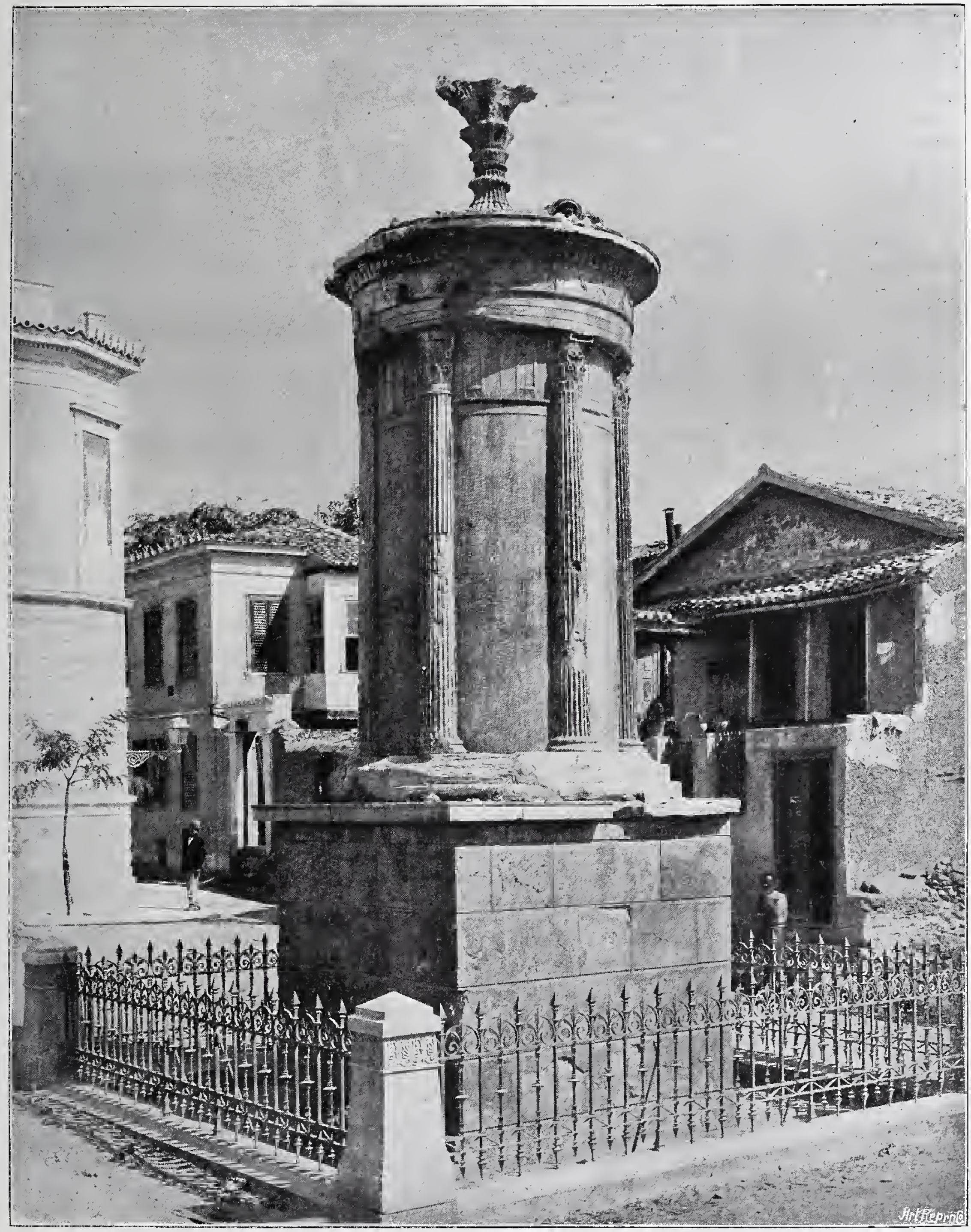

FIG. 7.—CHORAGIC MONUMENT OF LYSICRATES.

> Who, both by precept and example, shows
> That prose is verse, and verse is merely prose ;
>
> . . . .
>
> Thus, when he tells the tale of Betty Foy,
> The idiot mother of "an idiot boy" ;
> A moon-struck, silly lad, who lost his way,
> And, like his bard, confounded night with day ;
>
> . . . .
>
> That all who view the "idiot in his glory,"
> Conceive the bard the hero of the story.
>
> *English Bards and Scotch Reviewers*, lines 229 to 249.

The New Timon attacks Tennyson in much the same manner—

> Not mine, not mine (O muse forbid !), the boon
> Of borrowed notes, the mock-bird's modish tune,
> The jingling medley of purloined conceits,
> Out-babying Wordsworth, and out-glittering Keats.
> With all the airs of patchwork-pastoral chime,
> To drowsy ears in Tennysonian rhyme !
>
> . . . .
>
> Let School-Miss Alfred find her chaste delight
> In "darling little rooms so warm and bright !" *

Eventually, however, the sublimity of the one and the exquisiteness of the other met with the highest approbation. So it will be with the attempts at a new evolution in architecture : it will at first probably be regarded with aversion and contempt ; but if it be really the outcome of an original genius, which can evolve a new system of proportion and a new beauty from the old that are more adapted to the cultivated state of the nation, there is no doubt that this will eventually gain over the tasteful people who have strength of mind enough to overcome their repulsion to new forms and new arrangements. Even now it is possible that those who have been accustomed to the usual sixteenth-century architecture of the Renaissance will merely see the solecisms of which Michelangelo was the author in the Sacristy of San Lorenzo ; the architects will recognise the new harmony of proportion which Michelangelo evolved there. Wordsworth was laughed at when he considered that some of the things he had attempted were better than the performances of Lord Byron, but it is most probable that in the present day many of the students of poetry will have been converted to Wordsworth's views. Even in some of Wordsworth's early works there is a dignity and simplicity which must win the admiration of those who admire those qualities, and this, I think, must be the case with the real architect. The great inventive genius must have those stirrings within him which urge him to attempt the realisation of his thoughts and emotions ; and if he tries and perseveres, correcting the mistakes which he must naturally make by the works of the great men who have preceded him, I cannot for a moment doubt that he will evolve something that is both original and true, in which his contemporaries will gradually see the long-wished-for step forward ; and when once this step forward has been made there is no fear of there not being a following.

We know something about the conditions which precede the production of high poetry : it has mostly been preceded by strong emotional occurrences, when the heart of the nation has been stirred to its utmost depth by fears which have, fortunately, not been fulfilled, but this dread and this fear have given place to exultation and rejoicing. Immediately before the great epoch of perfection in the fine arts of Greece, the Greeks were threatened with the vengeance of the great Persian monarch who had subjugated their countrymen in Asia Minor, had destroyed with his myriads the temples of the very foremost city of Europe, if not of the world, Athens, and had forced the Athenians to take refuge in their ships; but he met with those crushing defeats that even now in the pages of Herodotus seem miraculous, and then every fine art burst into blossom. Æschylus, Sophocles, and Euripides wrote their immortal plays; Pheidias constructed those sublime iconic statues from the copies of which every sculptor studies; Ictinus, Callicrates, and Mnesicles built those temples and porticoes that have been the envy and despair of every succeeding architect, but which I hope some of you will excel. Let me rouse your blood and ambition by those stirring lines of Byron that chronicle the tyrant's defeat at Salamis:—

---

* The whole of this poem (!!!) is worth reading, in order to see to what depth of silliness the human intellect can descend.

A King sate on the rocky brow
  Which looks o'er sea-born Salamis;
And ships, by thousands, lay below,
  And men in nations; all were his!
He counted them at break of day—
And when the sun set, where were they?

ERRATUM, LECTURE III., LAST NUMBER.

The inscription to fig. 1, p. 383, should read Leaf Window instead of Rose Window.

THE ROYAL GOLD MEDAL 1902.

Presentation to Mr. Thomas E. Collcutt [*F.*], at the Meeting of the 23rd June 1902.

ADDRESS BY MR. WILLIAM EMERSON, PRESIDENT.

Gentlemen,

I HAVE to perform the most pleasing duty which falls to the lot of the President of the Royal Institute of British Architects, namely, to present to a distinguished colleague, a member of the profession and of the Institute, the King's Gold Medal.

This Medal is the greatest honour the Institute has in its power to confer on those who have distinguished themselves by their work, or in furthering the art of architecture. The first to whom it was given was Charles Robert Cockerell in the year 1848, and the last was Professor Lanciani in the year 1900. In 1901, owing to the death of our late beloved and lamented Queen, it was not awarded at all. Since then His Majesty the King has, as you all know, graciously signified his intention to continue its presentation. Amongst the list of those who have received the Medal are a large number of our most distinguished brethren, and also a number of eminent foreigners, for this Institute is not narrow-minded, but cosmopolitan in its views. Amongst the recipients are the names of Cockerell, Barry, Donaldson, Smirke, Scott, Viollet-le-Duc, Pennethorne, Wyatt, Street, Pearson, Penrose, Garnier, Hunt, Leighton, Aitchison, Bodley, Lanciani. And I think, Gentlemen, that you will agree that the name of Thomas Edward Collcutt is a fitting addition to such names.

The presentation of this Medal conveys the recognition that the recipient's life in the cause of our noble art has not been passed in vain, and that the profession appreciates the services he has rendered in the advancement of the art of architecture, and that the King ratifies and endorses the view taken of the work he has produced.

In the architecture of the moment there is much to make us hopeful, and that this Medal should be presented to Mr. Collcutt is an indication that the feeling in regard to architecture just now is distinctly against a slavish reproduction in our modern work of old examples, and also equally against the foolish ignoring of all precedent as a means of arriving at original productions. Mr. Collcutt has evidently carefully studied and reflected on the best examples of both Classic, Gothic, and Renaissance work, and has thus marked out a distinctive line or path for himself. This is evident in such works as the Wakefield Town Hall, the Imperial Institute, and the City Bank on Ludgate Hill.

I reiterate that this freedom from the trammels of precedent, coupled with study of precedent, is the most hopeful sign for the advance of architecture in this century. It is well done that His Majesty should confer the honour of the Gold Medal on our distinguished confrère, Mr. Thomas Collcutt, for in so doing the cause of our art is, I think, greatly helped forward. Though you all well know Mr. Collcutt's work, the following is a list of some of his most important productions, and the order in which they were carried out, commencing in 1872 with the Blackburn Free Library—and in following years, the Wakefield Town Hall; the Imperial Institute; the P. and O. Offices in Leadenhall Street; the City Bank, Ludgate Hill; the Beckstein premises and hall; Lloyd's Registry of Shipping; besides the decorations of many of the saloons of the P. and O. steamers and a number of country houses and business premises. In all these works there is a most distinctive character and artistic feeling, combined with much originality of treatment, yet without any evidence of straining after such originality, and affectation is entirely absent from all his work.

Mr. Collcutt, I have the distinguished honour of handing to you the King's Gold Medal for Architecture, and heartily congratulate you on the honour so conferred upon you, and most heartily wish you further success, and a long life and health to enable you to continue your work in the future.

MR. COLLCUTT'S REPLY.

Mr. President, Ladies, and Gentlemen,—

I BEG to thank you, Sir, most heartily for the kind terms in which you have spoken of me and my work, and to express to the members of the Institute my heartfelt appreciation of their goodwill towards me in suggesting my name to His Majesty the King for the honour of being Royal Gold Medallist for this year.

The Gold Medal was founded for the promotion of architecture, and although I cannot lay claim to having aided this desirable object, I can yet be proud of being a member of this Institute, which, in my opinion, has undoubtedly done very much for the promotion and encouragement of our art.

I think the Institute more than any other body has been instrumental in encouraging a diligent study of architecture. It has aimed at fostering a high ideal in the minds of our students by assisting them to a knowledge and appreciation of the best examples of ancient architecture.

It is satisfactory to observe that students have been eager to profit by the advantages offered to them in the form of annual prizes, medals and studentships. The drawings and sketches submitted in competition for these prizes are marvels of patient, diligent, and artistic study—study ranging from the purest classic to the mediæval and almost to the Victorian age. Now, Sir, in my opinion, this work of the student is laying the foundation of a wide knowledge that will enable him to deal with his real work in a scholarly, catholic, and artistic manner, and also to meet the demands of modern requirements in the spirit in which the great masters designed and built.

The Institute has also promoted the advancement of architecture by the encouragement it gives to the study of the art of building as well as to the fine art of architecture. Our examinations deal very largely with the various details of construction and with the many mechanical trades that go to the forming of a building; and no student can be fully equipped for his future work in life unless he is a builder as well as a designer of architecture.

In this way, I think, the Institute has done more for the promotion of architecture than it would have been possible for individuals to do, however distinguished they may have been.

And now, Sir, while thanking you for the honour you have done me, I wish to add that the natural, and I think excusable, feeling of elation with which I learned that the King had graciously sanctioned your recommendation, was not untempered by sadder thoughts.

I allude, Sir, to the most sincere regret and sorrow felt by us all, that one whom we unanimously wished to honour was suddenly taken from among us, before the distinction we intended could be conferred upon him; and alas! before his great work was finished. Only a few weeks before the death of Mr. Bentley I had the privilege, together with other friends, of being conducted by him over his magnificent cathedral.

That work, so far as the interior is concerned, is left unfinished, not much more than a shell, but a very noble shell. Both architects and public have sustained an irreparable loss. We shall not now see the outcome of that definite co-operation of the architect and painter-mosaicist, a co-operation which justified us in expecting the most noble results, because, though rarely seen, it is founded upon a true principle. Let us fervently hope that whatever decoration of the domes may be decided upon, it will be entrusted only to those who have a knowledge, and feeling and enthusiasm for the architecture of the building. And also may we hope that sufficient funds may be forthcoming to complete this great architectural monument in a manner worthy of the genius of him who designed it.

Sir, I am deeply grateful for the honour done me in placing me on the roll of the Gold Medallists. There may be many more deserving of this honour than I, but there is not one who has more earnestly wished to further the cause of our art.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS 1834
INCORP. 1837 1887

9, Conduit Street, London, W., 28*th June* 1902.

CHRONICLE.

The Annual Dinner, 1902.

The Annual Dinner of the Institute took place at the Whitehall Rooms on Thursday, 19th June, the President, Mr. William Emerson, presiding. Special interest attached to the event owing to the presence, among numerous distinguished guests, of eminent Colonial personages who were to represent their respective countries at the State functions to be held in connection with the then expected Coronation. These included Lieut.-Colonel Sir Albert Hime, K.C.M.G., Premier of Natal; Sir Walter Peace, K.C.M.G., Agent-General for Natal; the Hon. Thomas E. Fuller, Agent-General for Cape Colony; Sir Walter Sendall, G.C.M.G., representing the West Indies; the Hon. Henry Copeland, Agent-General for New South Wales; and the Hon. Alfred Dobson, Agent-General for Tasmania. The Agents-General for Queensland and Western Australia had also accepted invitations, but were unavoidably prevented from attending. Interest naturally centred round the Premier of Natal, whose eloquent address in responding for "The Colonies" was received with every token of appreciation and enthusiasm.

Other Institute guests at the high table were the Earl of Iddesleigh, Lord Balcarres, M.P., Lord Monkswell, Sir Wm. Richmond, K.C.B., R.A., Sir Henry Howorth, K.C.I.E., Sir Benjamin Stone, M.P., Sir H. Truman Wood, Sir Martin Conway, the Ven. Archdeacon Sinclair, Mr. Alfred Hopkinson, LL.D., K.C., Vice-Chancellor of Victoria University, the Presidents of the Institution of Civil Engineers, the Surveyors' Institution, and the Institute of Electrical Engineers, the Warden of the Fishmongers' Company, and the Masters of the Carpenters' Company, the Cordwainers' Company, and the Plumbers' Company. At the last moment messages of regret at their inability to be present were received from the Earl of Wemyss, Sir L. Alma-Tadema, R.A., Sir Francis Sharp Powell, M.P., Sir John Rolleston, M.P., and Mr. J. Fletcher Moulton, K.C., M.P., who had accepted invitations.

The following is a complete list of the company present:—

Mr. John Adams; Mr. Maurice B. Adams [*F.*]; Mr. J. S. Addenbrooke [*A.*]; Mr. R. Stephen Ayling [*A.*]; Mr. Louis Ambler [*F.*]; Mr. B. d'Ambrumenil; Mr. J. Macvicar Anderson, F.R.S.E., *Past President*; Mr. Richard Armstrong [*F.*]; Lord Balcarres, M.P.; Mr. R. S. Balfour [*A.*]; Mr. Charles E. Barry [*A.*]; Mr. Sydney B. Beale [*A.*]; Mr. John Belcher, A.R.A., *Vice-President*; Colonel Stanley Bird; Sir George Birdwood, K.C.I.E.; Mr. Hippolyte J. Blanc, R.S.A. [*F.*]; Mr. Thomas Blashill [*F.*]; Mr. G. F. Bodley, R.A. [*F.*], Prime Warden of the Fishmongers' Company; Mr. T. V. Bowater; Mr. R. H. Boyce, C.B.; Mr. E. J. Bridges [*A.*]; Mr. H. K. Bromhead [*F.*], President of the Glasgow Institute; Mr. A. N. Bromley [*F.*]; Mr. A. Burnell Burnell [*F.*]; Mr. Rhodes Calvert [*F.*]; Mr. V. Calvert; Mr. W. D. Caröe, F.S.A. [*F.*]; Mr. Paul de Castro; Mr. J. Burland Chubb; Mr. F. Dare Clapham [*A.*]; Mr. C. Purdon Clarke, C.I.E. [*F.*]; Mr. Max Clarke [*A.*]; Mr. J. R. Clayton, F.S.A.; Mr. T. E. Collcutt, *Vice-President*; Mr. P. M. B. Collcutt; Mr. H. H. Collins [*F.*]; Sir Martin Conway; Dr. H. Merriman Cooper; Hon. Henry Copeland; Mr. H. O. Cresswell [*F.*]; Mr. Richard Creed [*F.*]; Mr. Crichton; Mr. George L. Crickmay [*F.*]; Mr. G. R. Crickmay [*F.*]; Lieut.-Col. Crompton, C.B.; Mr. A. W. S. Cross [*F.*]; Mr. A. Cunningham; Mr. Percivall Currey [*F.*]; Rev. Hubert Curtis; Mr. Thomas W. Cutler [*F.*]; Mr. Alfred Darbyshire, F.S.A., *Vice-President*; Mr. G. B. Davis; Mr. A. Dixon; Hon. Alfred Dobson, Agent-General for Tasmania; Mr. F. E. Eales [*F.*]; Mr. O. E. Edwards; Mr. Ernest Emerson [*A.*]; Mr. William Emerson, *President*; Mr. Frederic R. Farrow [*F.*]; Mr. H. Favarger [*F.*]; Mr. W. M. Fawcett, F.S.A. [*F.*]; Mr. Owen Fleming [*A.*]; Mr. George Frampton, R.A. [*H.A.*]; Hon. Thomas E. Fuller, Agent-General for Cape Colony; Mr. Ernest George [*F.*]; Mr. William Glover [*F.*]; Mr. G. L. Gomme, F.S.A., Clerk of the London County Council; Mr. E. J. Gosling; Mr. Alexander Graham, F.S.A., *Hon. Secretary*; Mr. Walter Graves [*F.*]; Mr. G. E. Grayson [*F.*]; Mr. H. H. Grayson; Mr. John Griffiths; Mr. E. A. Gruning [*F.*]; Mr. A. L. Guy [*A.*]; Mr. C. J. Hair [*A.*]; Mr. Edwin T. Hall [*F.*]; Mr. S. H. Hamp; Mr. Edward Hanson; Mr. F. H. A. Hardcastle [*A.*]; Mr. Henry T. Hare [*F.*], President of the Architectural Association; Mr. W. H. Harrison [*A.*]; Mr. Charles Hawksley, President of the Institution of Civil Engineers; Mr. Arthur Heathcote; Mr. Chas. Heathcote [*F.*]; Lieut.-Col. Sir Albert Hime, K.C.M.G., Premier of Natal; Mr. G. T. Hine [*F.*]; Mr. Wm. Hodgetts; Mr. Francis Hooper [*F.*]; Mr. Alfred Hopkinson, LL.D., K.C., Vice-Chancellor of Victoria University, Manchester; Mr. George Hornblower [*F.*]; Mr. H. G. Howse, President of the Royal College of Surgeons; Sir Henry Howorth, K.C.I.E.; Mr. George Hubbard, F.S.A. [*F.*]; Mr. Alfred A. Hudson [*H.A.*]; Mr. Charles Hudson, Master of the Plumbers' Company; Mr. Percy Hunter [*A.*]; Mr. C. E. Hutchinson [*A.*]; Mr. Herbert Ibberson [*F.*]; The Earl of Iddesleigh; Mr. B. Ingelow [*F.*]; Mr. T. E. Lidiard James [*F.*]; Mr. A. H. Kersey [*F.*]; Mr. Zeph. King [*F.*]; Mr. J. Lamb; Mr. J. Chambers Leete; Sir Norman Lockyer, K.C.B.; Dr. G. B. Longstaff; Mr. Henry Lord [*F.*]; Mr. Henry Lovegrove [*A.*]; Mr. R. Falconer Macdonald [*F.*]; Mr. C. J. Mann; Mr. Charles John Mander, Master of the Cordwainers' Company; Mr. F. W. Marks [*A.*]; Mr. J. C. Marshall, Master of the Fan-makers' Company; Mr. J. Douglass Mathews [*F.*]; Mr. H. Percy Monckton [*F.*]; Lieut.-General Moncrieff; Mr. Gaetano Meo; Mr. H. E. Milner [*H.A.*]; Mr. E. Arden Minty [*F.*]; Lord Monkswell, Vice-Chairman of the London County Council; Mr. E. W. Mountford [*F.*]; Dr. A. S. Murray [*H.A.*]; Mr. John Murray [*F.*]; Mr. W. Hilton Nash [*F.*]; Mr. James Neale [*F.*]; Mr. William Neill; Mr. J. C. Nicol [*A.*]; Mr. Paul Ogden [*F.*]; Sir Walter Peace, K.C.M.G., Agent-General for Natal; Mr.

George Pearson [*A.*]; Mr. H. A. Pelly [*A.*]; Mr. H. R. Perry [*A.*]; Professor Beresford Pite [*F.*]; Mr. Rowland Plumbe [*F.*]; Mr. A. N. Prentice [*F.*]; Lieut.-Col. Probyn, Mayor of Westminster; Mr. G. H. Fellowes Prynne [*F.*]; Mr. W. Pullman; Colonel Raban, R.E.; Mr. Herbert Read [*F.*]; Mr. Harry Redfern; Lieut.-Colonel Reid, I.M.S.; Sir William B. Richmond, K.C.B., R.A. [*H.A.*]; Mr. W. E. Riley [*F.*]; Mr. St. Croix Rose; Mr. R. Fabian Russell [*F.*]; Mr. Charles Scott; Captain W. Scriven; Mr. H. D. Searles-Wood [*F.*]; Sir Walter J. Sendall, G.C.M.G.; Archdeacon Sinclair; Mr. John Slater, *Vice-President*; Mr. Ernest R. Sharpe; Mr. Gilbert M. Simpson [*A.*]; Mr. John W. Simpson [*F.*]; Mr. Harry Sirr [*A.*]; Mr. J. Osborne Smith [*F.*]; Professor R. Elsey Smith [*A.*]; Professor T. Roger Smith [*F.*]; Mr. H. Saxon Snell [*F.*]; Mr. Lewis Solomon [*F.*]; Mr. Henry Spalding [*F.*]; Mr. W. P. Stebbing; Sir Benjamin Stone, M.P.; Mr. J. C. Stransom [*A.*]; Mr. James Swinburne, President of the Institution of Electrical Engineers; Mr. Arthur Sykes [*A.*]; Mr. A. W. Tanner [*A.*]; Mr. Henry Tanner [*F.*]; Sir John Taylor, K.C.B. [*F.*]; Mr. A. H. Ryan-Tenison [*A.*]; Mr. J. Lewis Thomas [*H.A.*]; Mr. A. Hessell Tiltman [*F.*]; Mr. Silvanus Trevail [*F.*]; Mr. W. F. Unsworth [*F.*]; Mr. Arthur Vernon, President of the Surveyors' Institution; Mr. Jasper Wager [*A.*]; Mr. Melville L. Ward; Mr. Thomas H. Watson [*F.*]; Mr. Aston Webb, A.R.A., *President Elect*; Mr. R. Douglas Wells [*A.*]; Mr. Frederick Wheeler [*F.*]; Mr. Thomas B. Whinney [*F.*]; Mr. W. Henry White [*A.*]; Mr. Herbert Wigglesworth [*F.*]; Mr. W. M. Willcocks; Mr. Alfred Williams [*F.*]; Mr. John Willson, Master of the Carpenters' Company; Mr. A. Needham Wilson [*A.*]; Mr. E. W. Wimperis [*A.*]; Mr. J. T. Wimperis [*F.*]; Mr. R. Winder; Mr. Edmund Woodthorpe, M.A. [*F.*]; Sir Henry Trueman Wood; Mr. Wm. Woodward [*A.*]; Mr. Chas. Woodward; Mr. W. Wonnacott [*A.*]; Mr. R. Selden Wornum [*F.*]; Mr. Percy S. Worthington; Mr. Thomas Yeo; Mr. Clyde Young [*A.*]; Mr. W. J. Locke, *Secretary*, and other officials of the Institute, and representatives of the press and news agencies.

Grace was said by Archdeacon Sinclair, and a selection of music was performed by the Leoni Ladies' Quintette during the dinner and between the toasts.

The PRESIDENT, in submitting the toast of "The King," said that His Majesty had been Patron of the Institute for many years. His Majesty's illustrious father, the Prince Consort, took the greatest interest in the founding of the Institute, and on its initiation did much to set it on a firm basis. Following the action of Her late Majesty, Queen Victoria, the King had also graciously signified his intention to present annually a Gold Medal, on the recommendation of the Institute, to some person who had distinguished himself by his works in the furtherance of the art of architecture.

The toast was drunk with great enthusiasm, as was also that of "Queen Alexandra, the Prince and Princess of Wales, and the other members of the Royal Family," submitted by the President.

Mr. J. MACVICAR ANDERSON, F.R.S.E., *Past President*, proposed the toast of "The Houses of Parliament." In the course of his remarks he said that at a time when they were emerging from a great war, when their brave army and brave enemy were apparently embracing each other, and when the leaders of the Boers and their own splendid General, Lord Kitchener, were expressing sentiments alike honourable to both, it would be strange indeed if they did not feel grateful to the Houses of Parliament for the part they had taken in bringing about so happy and so auspicious a result.

The toast was coupled with the name of Lord Monkswell, Vice-Chairman of the London County Council, who responded in a very humorous speech.

Mr. ASTON WEBB, A.R.A., *President-Elect*, said that the toast he had been asked to propose was "The Colonies," but he might more properly propose "His Majesty's Dominions Beyond the Seas." The subject had been treated by the greatest men of the day, and it would be presumptuous on his part to attempt to deal with it there, but they as architects and their brother artists were Englishmen before anything else, and they would wish him to express in their name to the distinguished representatives of the British Dominions who were present their delight in seeing them, and to say how proud they were at the closer union which was being drawn between the dear old country and the British Dominions beyond the seas. Perhaps the point which touched them most nearly was how far this union was going to affect the art of this country and the art of the world. He imagined it would affect art very much indeed. The great function of art had always been the expression of the ideas of a nation and a country. For centuries art had expressed the aspirations of Victory; sometimes—not so often—of Peace; almost always of Religion. Now there was an opportunity for a new expression, a new aspiration. Surely the art of the present day would be able to rise to that aspiration, and Literature, Painting, Sculpture, and last, but not least, Architecture, would be able in time to show some fresh development of their work which would owe its creation to this new aspiration of a United Empire. The new blood which they hoped would be brought to them from beyond the seas, restrained as it might be by tradition from the old country, might in time develop a style which would be understood all over the world as representing this wonderful empire without limitation of country, but limited only by the world itself. The Institute was honoured that night by the presence of Sir Albert Hime, the Premier of Natal; by Sir Walter Peace, the Agent-General for Natal; by the Hon. Alfred Dobson, the Agent-General for Tasmania; by the Hon. T. E. Fuller, the Agent-General for Cape Colony. Of all the British Colonies the one uppermost in their thoughts to-day was the Colony of Natal. Natal was the Colony which nobly and heroically bore the first brunt in the struggle which was now happily closed. In proposing that toast he ventured to couple with it the name of Sir Albert Hime, the Premier of Natal.

Lieut.-Col. Sir Albert H. Hime, K.C.M.G., who met with a most enthusiastic reception, in rising to reply, thanked the company for the way in which they had received the toast, and also Mr. Webb for the way he had proposed it. He would not say that the Colonies did not deserve the cordiality which had been exhibited by that distinguished assembly, but he would say that, so far as the little Colony of Natal was concerned, they had really done nothing more than they considered to have been their duty. They were proud to belong to the great British Empire; they were proud to have done what they could to maintain the integrity of that great Empire, and although they were but a small Colony, he hoped he might say they had done everything in their power to maintain that integrity they all so ardently desired. Natal was the last Colony to which self-government had been granted by the King; but, although it was the last jewel in the crown of His Majesty, he did not think it was the less brilliant on that account. Recent events had proved that the Colonies were factors which could not be excluded by those who were responsible for shaping the destinies of the Empire. The Colonies had shown the marvellous capabilities they possessed; they had shown the extraordinary resources they commanded in all parts of His Majesty's dominions beyond the seas; and recent events had led, he believed, to a better understanding of the Colonies and of their aims and aspirations. They had passed through a very serious crisis, there had been a great expenditure of blood and treasure, but the sacrifice had not been in vain. The ties which unite the Colonies to the Mother Country had been cemented and made more secure than they had ever been in the past. The Empire had now at the head of its Colonial affairs a statesman whom the colonists all admired, and in whom they had the utmost confidence. Mr. Chamberlain had shown himself to be mindful of the interests of the Colonies, and had taken every means to acquaint himself with the aims and the aspirations of the Colonies, and they firmly believed that he had done more towards uniting the Colonies to the Mother Country than any statesman had ever done before. He (Sir Albert Hime) had spoken of the marvellous resources of the Colonies. Many of them, perhaps, knew as well as he did what those resources were, but they were resources which he thought would at no distant date make the British Empire self-supporting. The previous day he paid a visit to the Alexandra Palace, and saw the Colonial troops reviewed by the Duke of Connaught, and he felt a thrill of pride run through him when he saw what magnificent material there was in those soldiers from beyond the seas for the future army of the Empire. They would probably all see those soldiers in a few days in the Coronation procession, and he thought they would all agree that in them the Empire had material which it would be a serious thing to ignore in any respect whatever. So long as they had that material, and so long as they had the Colonies united with the Mother Country, they need never be afraid to face their enemies in the gate. The South African war, now happily closed, had been referred to that evening, and he did sincerely trust that under the just and able government of that great statesman, Lord Milner, their recent brave foes would become their friends, and would ere long be proud to call themselves subjects of the greatest Empire in the world. The war was now happily ended, but if at any future time the British Government should be in need of assistance in any part of the world, he was confident that the colonists would come forward and would be prepared to prove themselves, as they had proved themselves in the past, to be worthy citizens of that great Empire to which they were all so proud to belong.

Lord Balcarres said that the toast he had the honour to place before them was that of "The Royal Institute of British Architects and Allied Societies," and it was one which would readily commend itself to their notice. They were all familiar, of course, with the immense work carried on by the Institute, by its extended membership, by its affiliation with allied societies all through the country, and now happily extending to the remotest Colonies. They were familiar with the scholarly and learned Transactions of the Institute, and with the valuable work it did in the examination of architects and surveyors, and so forth, all the while raising the dignity and status of the architect's calling. But it was not on those grounds so much that he submitted the toast that evening. He wished to do so rather as a layman, as a member of the public, as an unlearned person in the technicalities of architecture. But he thought a member of the public had clearly the right to propose the toast, because, after all, the greatest patron of architecture to-day was the public. At one time the greatest patron was the Church; later, it was the men who erected large mansions; but now the great patrons were the State and the municipalities. Think of the buildings which had to be erected now by the community—the town halls, the technical institutes, the schools, the barracks, the police-courts, the post-offices, and the great rehousing schemes, and the vast opportunities they presented. As a member of the public, and as one who took a share in being amongst the great patrons of architecture, he was glad to propose the toast. Just outside the window one of the greatest buildings which had ever been erected was being put up by that great patron of architecture, the public, and they found that the great rehousing scheme and the great reconstruction schemes were being carried out by the public. Thus London changed, but the beauty of the future of London lay largely in the hands of the Royal Institute of British Architects. The public had got to look to them for a "city beautiful," and eventually to achieve that ideal was what the public were, he believed, really hoping for. That was why the members of the public owed a great debt to the architect. But he would like to say, frankly tempered with all humility, what he conceived to be the duty of the architects to the public. The duty did not end with the completion of the building; to his mind the duty of the architects would not be ended until the public should have its mind cleared of certain fallacies to which it clung with great zest. Let him as one of the public turn king's evidence on some of these fallacies. First, the public had not yet learned that architecture is a living organic art—that was why they thought architects could be scheduled and registered. The public view seemed to be, "Once a builder, always an artist." Now, as one of the public, he asked that the Institute should teach them that architecture did not consist entirely of plate glass and steel girders. Would the Institute teach them that the laws of architecture were not entirely comprised in the Building Acts? He would pass from that fallacy, which was a very dear one to the British public, to another one, which was even more subtle and in some ways even more dangerous—a fallacy which for convenience one might call the ideal of associated architecture. It meant that if they had a building to erect and chose a man, they did not trust him enough to do the work by himself, and therefore associated with him another architect whom they did not sufficiently trust before to give the work to. The public idea, of course, was that one man could make the exterior, and another man could make a good interior from the same exterior. That is to say, they entirely denied the essential unity and the essential harmony of the art of architecture. Those were two features, and none of those present could deny that they were held very dearly. The public attention which was given to the correspondence which passed between the Institute and its Allied Societies a few months ago, when they made representations to a high member of the public, was, he thought, sufficiently responsive to show that anything which came from the duly accredited representatives of the great art of architecture would be respectfully received by the public. The letter which he read in that morning's papers, coming officially from the heads of the great Institute of British Architects, they would find would be received with deep respect, and he hoped care would be given to the representations which the President had made. He did not ask—far from it—that the Institute should take up an aggressive line, for they could leave that to the House of Commons; but he did say with perfect sincerity that the public was willing to learn, and that the public was a willing listener, especially when it knew that those who offered advice were qualified to give that advice.

The President, in reply, thanked the company for the exceedingly hearty way in which they had received the toast and also for the kind manner in which they had received his own name. Since he had the honour of taking the chair at these annual dinners, now three years ago, great historical events had happened. They had witnessed during that short period the death of the century—a century perhaps the most remarkable in the history of the world for its progress in all branches of knowledge and science. To such an extent had science advanced during that century that it had practically changed the circle of the globe, and distant countries and continents had been brought politically and socially into the closest proximity to each other. They had also to regret the passing of the greatest and best-beloved Queen that any country had ever had. They had also in a few days to record the Coronation of King Edward VII., and the country was also rejoicing over the successful completion of the most difficult campaign it had ever been engaged in. A war that was waged 7,000 miles away had ended in a peace which they hoped might be lasting; it had resulted in an enormous addition to His Majesty's vast dominions, and had given them a new people to add strength and stability to the British Empire. Also they had to record the great fact of Colonial federation, of which the results in future would probably be greater than any man could foretell. These historical events of the past few years ought certainly to have a great effect on the art of architecture. They believed that their art during the present century would advance, and that it would show as fine buildings as those which had been produced in any former age; and they looked forward to this for two reasons. One was the wider interest now taken in the education of the architect, and the second the increased interest taken by the general public in architecture and its sister arts, sculpture and painting. Lord Balcarres had spoken of the duty of architects to the public. Well, that was a matter the Institute had often taken account of; and they had come to the conclusion that the best way to educate the public in architecture was to educate architects themselves. For this reason the Institute examinations were started some years ago; and they had a greater number of students coming up year by year. They had also started these examinations through the Allied Societies in the Colonies. In Canada and Australia these examinations had been commenced by accredited members of the Institute in those parts, and the examination papers were sent home and reported upon here. That was a step in the right direction, but what they wanted was that the status of the architect should be more clearly defined; and to this end it would be a good thing if Parliament were able to pass some measure by which their cities and towns should be prevented from being disfigured by the work of builders without guidance, or by men who had no justification for practising as architects. How such a measure should be framed was naturally a large question, which they could not enter into there. It would be a matter of some years to come, no doubt; but it was important that the buildings of a great Empire like this should be magnificent, to tell the history of the country. He alluded purposely to the historical events which had taken place in the last three years with a view to pointing out that the Government at the moment were engaged in erecting a large and important building. So was the London County Council. Surely such events as the solemn cortège at the burial of their great Queen, and the incidents of the event which they had just completed ought to be told on the walls of their public buildings, even if £20,000, or £30,000, or £50,000, or even £100,000 were spent in sculpture or painting. It would be a trifle in comparison with the cost of the enormous Government and municipal buildings now being erected. They sincerely hoped that Parliament would see its way to allow an expenditure which would be adequate for such a purpose and sufficient to show forth the history of the last few years to future generations. He thought the suggestion that these subjects might be represented on the buildings was not an impossible suggestion, for in the late war the peoples engaged were picturesque. The costumes were picturesque and did not present the difficulties to the sculptor which most of the uniforms of past years would in attempting to deal with them artistically. There was another factor in the architecture of the next few years that might possibly have a great influence on their art works, and that was the attitude taken up by the London County Council with reference to buildings in London. The Report on the construction of the Holborn–Strand street scheme had now been issued, and it was sincerely to be hoped that having taken so much trouble to get a harmonious design for this scheme, a masterful hand would be held over every tenant taking plots for building, so that the general harmony should be kept throughout the whole scheme. It was also to be hoped that no new-fangled notions of construction or design for these new buildings, suggested by the speculative energy emanating from the other side of the Atlantic, would be allowed to pass the London County Council. It was to be hoped, again, that in such an enormous frontage as was proposed for the new Victoria terminus the London County Council would keep an eye on the design and see that a really handsome architectural feature was made of that frontage, for these railway stations were now assuming such a vast size that it was imperative steps should be taken to prevent their becoming public eyesores.

Mr. John Belcher, A.R.A., gave the toast of "The Guests." The presence of so many distinguished guests, he said, had been one of the greatest charms of the gathering. They most heartily welcomed them, and they particularly welcomed the distinguished representatives of the Colonies. The architects were seeking to gather together into closer communion their fellow-workers everywhere. They were anxious that Architecture as a fine art should more and more adequately express the feelings of the great British Empire.

The Earl of Iddesleigh briefly replied, and thanked the Institute on behalf of the guests for a pleasant evening, which he thought they would not soon forget. To their President he would add one special word of thanks. He believed that a great deal of the President's work had been done in India, and under those sunny skies he had added to what already existed a market, a palace, and a cathedral. They could congratulate themselves, however, that in future the President intended to devote himself to their dear old smoky London.

The Royal Gold Medal 1902.

The Royal Gold Medal for Architecture, being the first conferred by His present Majesty, King Edward VII., was presented to Mr. Thomas Edward Collcutt at the General Meeting of the 23rd inst. There was a good muster of members and visitors, the latter including several ladies, and Mr. Collcutt met with an exceedingly hearty reception. The addresses delivered on the occasion are printed on foregoing pages.

Mr. Emerson's Farewell.

Mr. Emerson's term of office as President came to an end with the General Meeting, the last of the Session 1901–2, held on Monday the 23rd inst. He had held the office for three years, having succeeded Professor Aitchison, R.A., in June 1899. Prior to his election to the Chair he had served the office of Hon. Secretary for over seven years. At the conclusion of the business last Monday Mr. Emerson addressed the meeting as follows:—

Gentlemen,—After so many years of intimate relationship with the active work of this great Institute, I have this evening, in a way, to say good-bye to you and to my valued friends and colleagues on the Council—for after leaving this chair you all know that your Presidents cease from active work in connection with the Institute's affairs. In now vacating the honourable position in which you so kindly placed me three years ago, I can only assure you that I have deeply appreciated the confidence and honour you reposed in me by entrusting the guidance of the Royal Institute of British Architects to my hands and head.

If in any respect I have failed to give you satisfaction or disappointed your expectations, I pray you to forgive me; if, on the other hand, you think that I have added in any degree (as I have ever endeavoured to do) to the interest or influence of the Institute, all I can say is that I am truly thankful; for that has been my one and only aim and the feeling that has prompted all my efforts in acting in the capacity of President.

I have always felt that this Royal Institute should be the real and only representative body of architects for the whole of the British Empire, and my conviction is that it will fast become so if we are true to ourselves, strong, and not wanting in *esprit-de-corps*. If we let our voice be heard, with no wavering or uncertain sound, on all important matters relating to our art and our profession, before many years have passed the Institute should hold the influential position it ought to do, and there should be scarcely any one worth calling a member of the profession who would care to stand aloof.

As it is, I think it must be somewhat of a selfish feeling which prevents men of standing in a profession from assisting their brethren by adding their influence and power to the representative body of that profession, so as to assist in upholding the common interests and strengthening the position of those following their own calling.

With divided ambitions and counsels the profession will be weak, and will be dictated to instead of dictating. With unity we shall have influence and strength, and shall be less subjected to the humiliating circumstances we occasionally have to deplore in the dealings of employers, whether public bodies or private individuals, with the architectural profession.

Above all things, we must not let our selfish interests cause doubtful lines of conduct to be entered upon. This has, I fear, been the case occasionally even amongst those who have been loud in their condemnation of unprofessional conduct in others. Let us above all things be honourable gentlemen, straightforward, firmly joining together in leading this great Institute to a position of respected influence that cannot be gainsaid.

And now, Gentlemen, I wish you all farewell. To my colleagues I can only say that when I first became a member of the Council some sixteen years ago I hardly knew any of the members; now I feel that I am leaving many friends for whom I have learned to have the greatest regard and respect, and, indeed, I trust the feeling is reciprocal. You can understand, therefore, if I feel a little sad to-night, notwithstanding that I am laying aside a burden of responsibility which has sometimes weighed heavily upon me.

I thank you all, Colleagues and Gentlemen, for your wise counsel and kindly help, and for the loyal and constant care with which you have aided me during my term of office.

Mr. Aston Webb has now to take over the badge and chain of office as your future President. In handing them over to his care I do so with the certainty that under his guidance the Royal Institute of British Architects will give forth no uncertain sound, and will increase in numbers, influence, and prestige.

Mr. F. C. PENROSE, F.R.S., D.Litt., D.C.L., *Past-President*, said he was sure he should have the agreement of the Meeting in proposing that the thanks of the Institute be accorded to Mr. Emerson for his action as President during the three years he had held the office. His strong, well-considered rulings had in every case been useful to the Institute, and doubtless his judgment would now be bequeathed to his successor, in whom they had every expectation of satisfactory work in the strong and clear course that should be followed for the benefit of the Institute. Members must all desire to thank Mr. Emerson, too, for the admirable Addresses he had delivered during his term of office, and for his final word of benediction to the cause of the Institute.

Mr. ERNEST GEORGE [*F.*] asked leave to second Mr. Penrose's vote of thanks to the President, who had conducted the affairs of the Institute for them in so marvellously wise and kind a manner. One felt that his judgment had been good in all matters that had been brought before him, and he had used his energy for them always in a most courteous, kind, and thoughtful manner. They had very much to thank him for, and said good-bye to him in his capacity as President with the greatest regret, tempered only with the knowledge that Mr. Aston Webb was to follow him, and that all Mr. Emerson had been doing would be carried on with equal judgment and wisdom by Mr. Webb.

Mr. JOHN SLATER, *Vice-President*, having formally put the motion to the Meeting, the vote was carried by acclamation, and briefly responded to.

The Coronation Honours.

In the distribution of His Majesty's Honours, made known on the day originally fixed for the Coronation, the distinction of Knighthood goes to the retiring President of the R.I.B.A. Sir William Emerson has the hearty congratulations of all who have been brought in contact with him in his official capacity at the Institute, whether as Member of Council, as Hon. Secretary, or as President.

The Institute has also to congratulate another of its professional members the recipient of a similar honour, viz. Sir Caspar Purdon Clarke, C.I.E. [*F.*]; and also two honorary members, Sir Edward Poynter, President of the Royal Academy [*H.F.*], who receives a baronetcy, and Colonel S. S. Jacob [*H.A.*], who is promoted to K.C.I.E.

The Institute Decorations.

Notwithstanding the unhappy postponement of the Coronation, it is only due to Mr. G. F. Bodley, R.A. [*F.*], to record the fact that he kindly made the design for the decorations of the façade of the Institute, and superintended the fixing. The panels were covered with red stamped velveteen with white and black fringes, set off by heavy swags and wreaths of laurel intertwined with dark blue ribbon. A gigantic crown surmounted the whole, and on either side of a banner with the St. George's Cross were red shields bearing the initials "E" and "R" in gold. The decoration was practically completed when the sad news of the King's illness became known, and therefore it was allowed to remain over the Bank Holidays. The front was to have been illuminated by an arc light thrown from a window opposite, most courteously placed at the disposal of the Institute by Messrs. Lewis & Allenby.

Danger of Fire at St. Paul's.

The following letter from Mr. Emerson appeared in *The Times* of the 19th inst.:—

June 1902.

Sir,—May I be permitted to call public attention to the extreme danger from fire to which our superb national monument, St. Paul's Cathedral, is subjected in consequence of the wood stages with which it is now so completely shrouded?

For its entire length the south side is encased in woodwork, very much of it being so slight in character that it would burn up with great rapidity. From the interior of the building it is seen that this woodwork is brought up close to the windows, which are obscured for nearly half their height. The tiers of seats are surmounted by canvas and tarpaulin. The woodwork slopes up from the street to the church walls, to which in many places it is actually attached. Fire would, of course, run with terrible rapidity up this slope and would expend much of its energy against the Cathedral walls. The result of the burning of these flimsy structures would calcine the limestone with which the walls are faced, and, giving rise to showers of sparks on a vast scale, might even attack the roofs.

Attention was drawn some days back to a similar danger to the National Gallery, and an assurance was given that ample precautions have been taken.

At Westminster the seats for the public are well detached from the walls of the Abbey.

It is to be hoped that the City authorities are taking every precaution in the event of fire, by careful watching and proper provision of fire appliances. I am, Sir, yours faithfully,

W. Emerson,

President of Royal Institute of British Architects.

MINUTES. XV.

At the Sixteenth General Meeting (Ordinary) of the Session 1901-2, held Monday, 23rd June 1902, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 28 Fellows (including 12 members of the Council), 31 Associates (including 3 members of the Council), 1 Hon. Associate, and numerous visitors, the Minutes of the Meeting held Monday, 9th June 1902 [p. 400], were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted by the President and signed the register, viz. Alan Cameron Walker (Tasmania) and Harold Busbridge.

By request of the President, the Secretary read the Address which the Council, on behalf of the Institute, proposed to send to the King on the occasion of His Majesty's Coronation.

The President delivered an Address on the Presentation of the Royal Gold Medal to Mr. Thomas E. Collcutt [*F.*], who, having been invested with the Medal, replied in acknowledgment of the honour.

The business of the Session having thus concluded, the President delivered a brief address of farewell on the expiry of his term of office, and, on the motion of Mr. F. C. Penrose, D.Litt., D.C.L., F.R.S., *Past President*, seconded by Mr. Ernest George [*F.*], a vote of thanks was passed to him for his conduct of the affairs of the Institute during his term of office.

The proceedings then terminated, and the Meeting separated at 9.15 p.m.

REVIEWS.

GAS LIGHTING.

Gas and Gas Fitting: A Handbook of Information relating to Coal-gas, Water-gas, Power-gas and Acetylene. For the use of Architects, Builders and Gas Consumers. By H. F. Hills, F.C.S. With seventy-three illustrations. 8o. Lond. 1901. Price 5s. [D. Fourdrinier, "Builder" Office, Catherine Street, W.C.]

This is the eleventh volume of the *Builder* "Students' Series," the usefulness of which is proved by the fact that it has already been necessary to issue a second edition of four of the volumes. The author goes thoroughly into the subject, and gives short but clear descriptions not only of gas fittings, but also of retorts, and the manufacture of various gases. In towns, electric light is taking the place of gas for illumination, and gas engineers have recently turned their attention more particularly to the construction of gas stoves and ranges, and many useful hints are given with regard to smells and ventilation. It is, of course, to the interest of the gas companies to supply stoves at a small cost; but when a fire is used during the greater part of the day, as in offices, a gas fire is much more expensive than a coal fire. It is a saving in gas to keep the main turned on about half-way; this will not affect the lights, and will make a great difference in the bill at the end of a quarter.

There are many interesting tables given: those on pages 119 and 120 show the loss of light through glass. The question of borrowed light often occurs in Light and Air cases, and these tables should be very useful to architects for a purpose not contemplated by the author. The table on page 99 is also interesting, showing that the percentage of energy expended in producing heat is much greater than that used in producing light by all artificial methods, the percentage being 85 per cent. and upwards for heat; but in the case of glowworms, fireflies and luminous beetles, the conditions are reversed, being only 1 per cent. of heat to 99 per cent. of light.

The book is quite up to date, the latest acetylene lamps for omnibuses and "penny-in-the-slot" meters being described. More information is given than is required by the average architect; a smaller edition dealing with the ordinary fittings in a building, would be most useful; and a handbook, published at, say, a shilling, should have a large sale.

The chapters on ventilation, geysers, cookers, and water-heaters are also full of interest. The author has great knowledge of his subject; and the book is well illustrated. SYDNEY PERKS.

ARCHITECTURE IN BATH.

The Eighteenth-Century Architecture of Bath. By Mowbray A. Green, A.R.I.B.A. Illustrated by Measured Drawings, Photographs, and Sketches. Part I. To be completed in Four Parts. Limited to 500 numbered copies. La. 4o. Bath, 1902. Price 7s. 6d. each part. [George Gregory, Argyle Street, Bath.]

The destructive effect of the nineteenth century on our old provincial centres, which up to the railroad era had followed out a gradual course of development, will inspire the future historian with constant regret, coupled, we fear, with harsh complaint, of an age which was not only destructive, but most often even too callous to record the history it obliterated. A consideration of this kind makes it difficult to exaggerate the value of this undertaking by Mr. Green, who, in a manifold capacity of draughtsman, photographer, and architectural historian, has successfully devoted himself to recording the aspect of Bath during the most brilliant epoch of its history, the eighteenth century. The first of four parts of this publication has just appeared and has been presented to the Library, and is, we think, of interest and service to architects, apart from its special local value. The story is carried by this first part only so far as the appearance upon the scene of the famous Wood of Bath, as the author has wisely decided to illustrate the basis of the earlier work as the starting-point from which the later development proceeded. By the reprint of some early maps the local conditions are made clear, while the causes of the growth of the city at this epoch are sufficiently described.

The eighteenth-century architecture of Bath in its full development has certain distinct qualities. First, as an example of a more deliberate laying out of a city for architectural effect than has been customary in England; and secondly, because, in spite of any such strivings after grandeur, the work is essentially domestic in character. In fact, to anyone familiar with Italian architecture in the land of its origin, or with the outcome of the application of its ideas elsewhere, the prevalent note of the eighteenth-century work at Bath is a subordination to domestic requirement, resulting in a smallness of scale that borders on meanness. This is to hint at an architectural equivalent of that aspect of the former life of Bath which caught the attention of Charles Dickens, and is enshrined in *Pickwick*. As the Master of the Ceremonies of Bath accepted his world by the light of unalterable conventions, so the architectural student to be "sympathetic" at Bath must take the Circus as the equivalent of the Colosseum, without any too curious an application of his foot-rule. There is sublimity in the M.C.'s dictum: "Hush, my dear sir; nobody's fat or old in Bath;" it is a step towards the realisation of the city of dreams, a paradise of architecture as purified from commercial abuses, as the M.C. conceived the balls at Bath to be when freed from the presence of "inconsistent tradespeople."

Whatever be the view that we may take of Bath architecture, applauding the grandiose idea, or despising to a point of equivalent ridicule the inadequacy of its embodiment, and the futility of its exclusions, it is clear that a city of such individuality deserves the fullest record of its past characteristics.

The real value of the work at Bath—its modern utility, so to speak—lies in a different plane. We may pass over much which to the eighteenth century seemed of high value, in the same spirit as in our day we put the unpretending city house of the Georges before its lordly contemporary, the portico-mansion, when summing their values as contributors to the development of domestic architecture. The dissolving effect of truth and common sense on the most highly organised convention, in the long run, need not blind us to the worth of the indirect results often arrived at in the course of its growth.

Mr. Mowbray Green's quarto history, lavishly illustrated with thirty-two large-plate photographs in the first part alone,* and accompanied by several clearly-drawn measured drawings and details, of both inside and outside work, will be a monument, not only of an interesting page in English social life in its architectural setting, but also of how much the zeal, and painstaking thoroughness, of a local architect may accomplish, in recording the historical buildings of his native city.

ARTHUR T. BOLTON.

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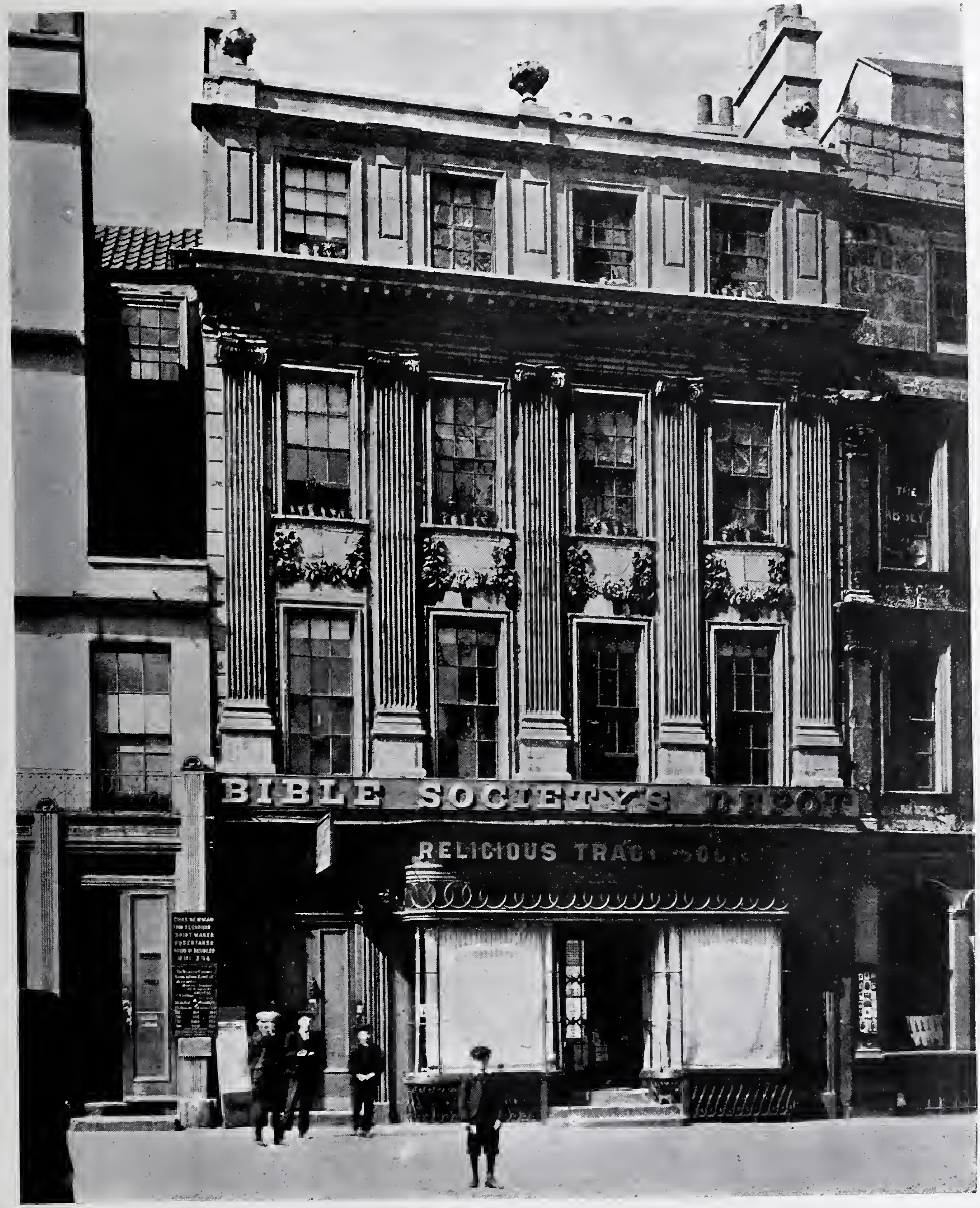
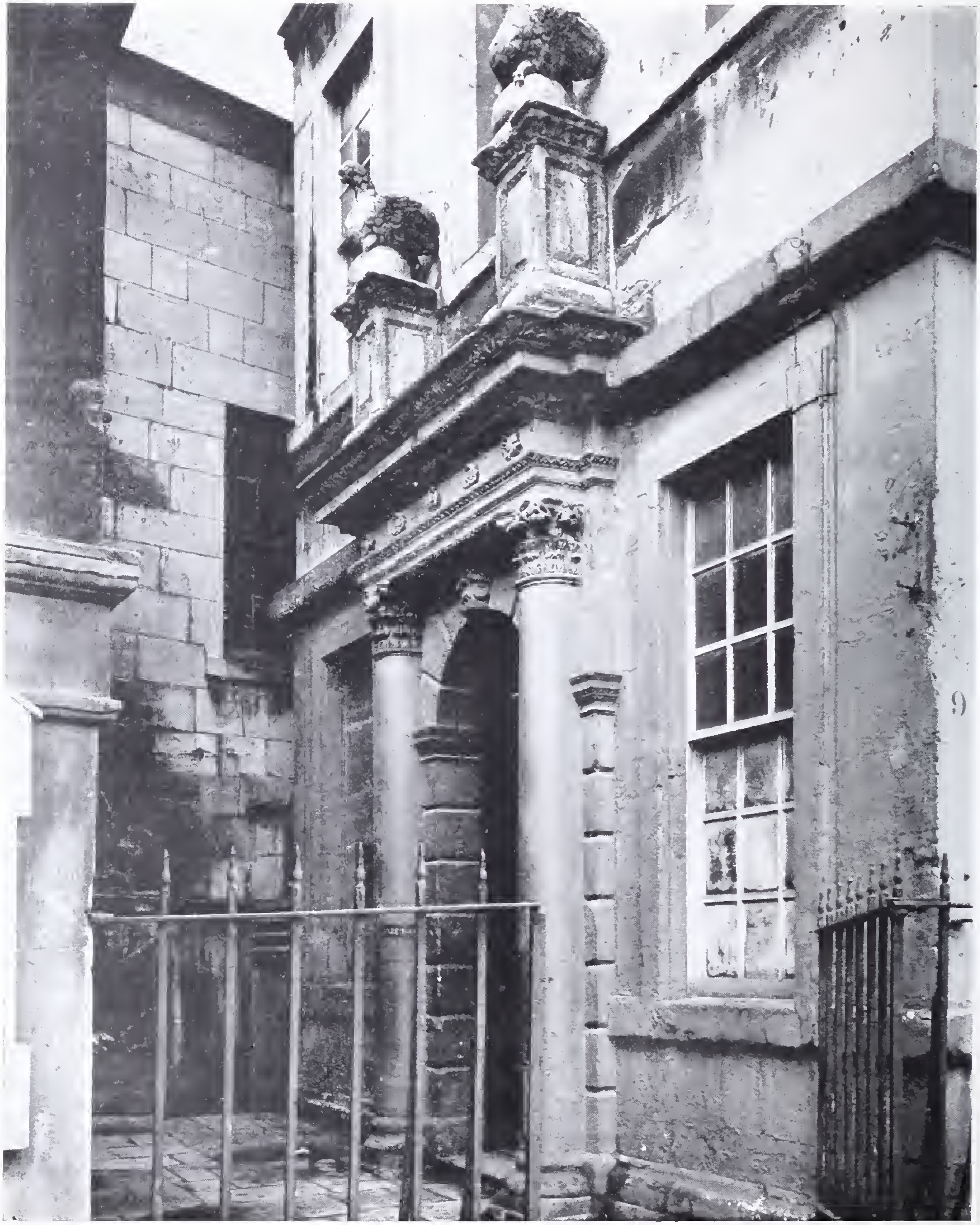
* Mr. Mowbray Green has kindly lent blocks of four of his illustrations, which are reproduced on the following pages.



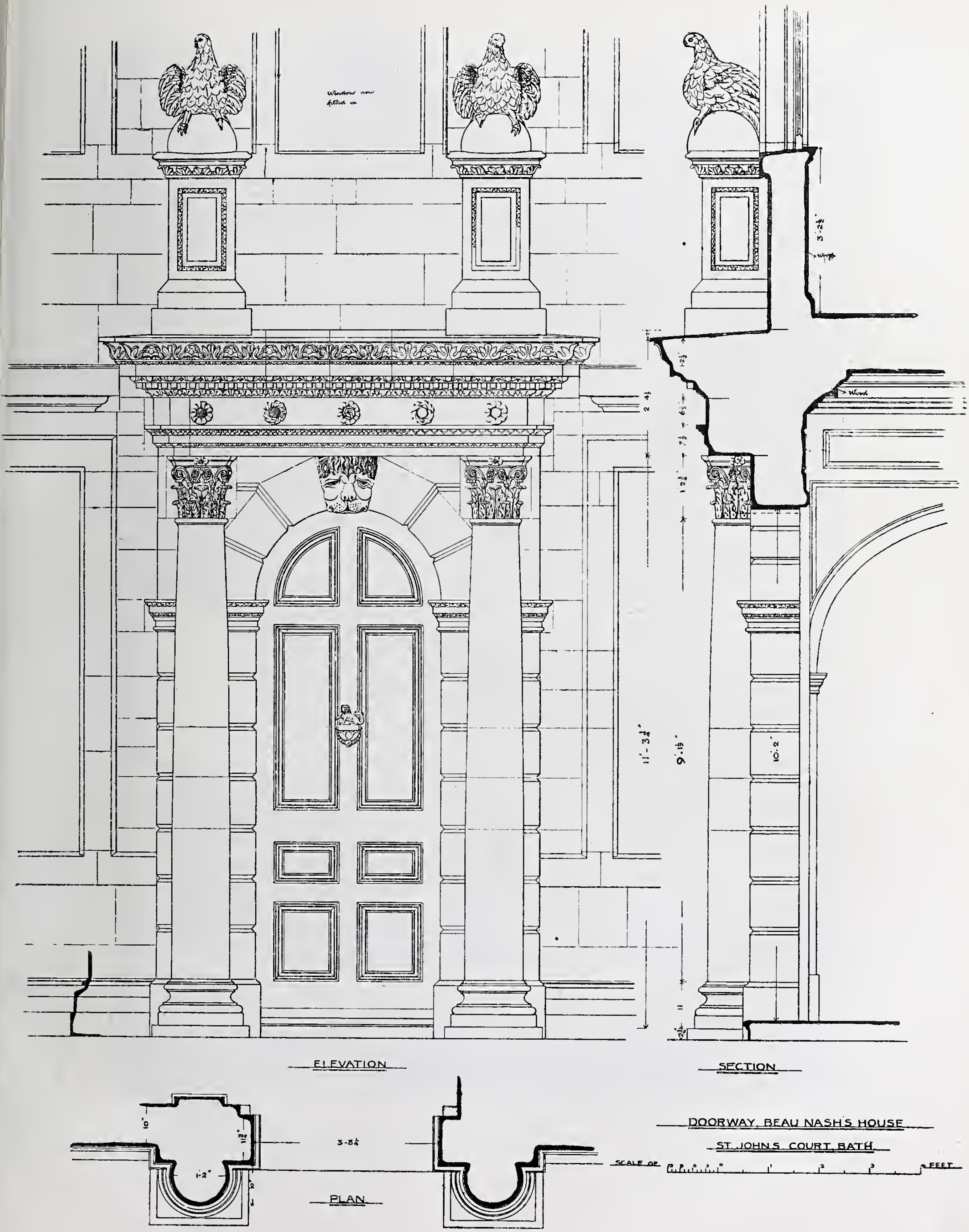
MARSHAL WADE'S HOUSE, ABBEY YARD, BATH.

(From Mr. Mowbray Green's *Eighteenth-Century Architecture of Bath.*)

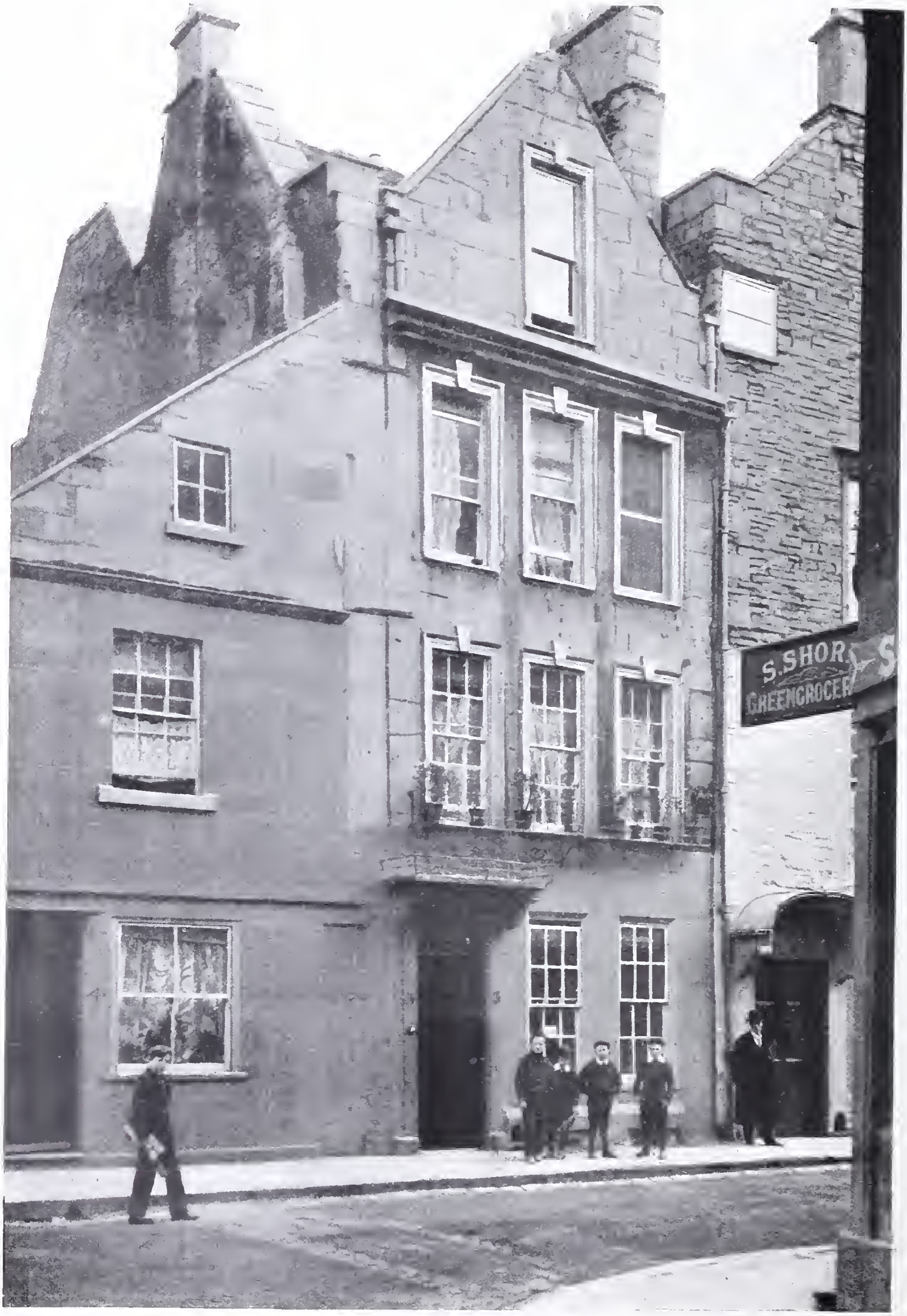


DOORWAY OF HOUSE IN WHICH BEAU NASH DIED, BATH.

(From Mr. Mowbray Green's *Eighteenth-Century Architecture of Bath.*)

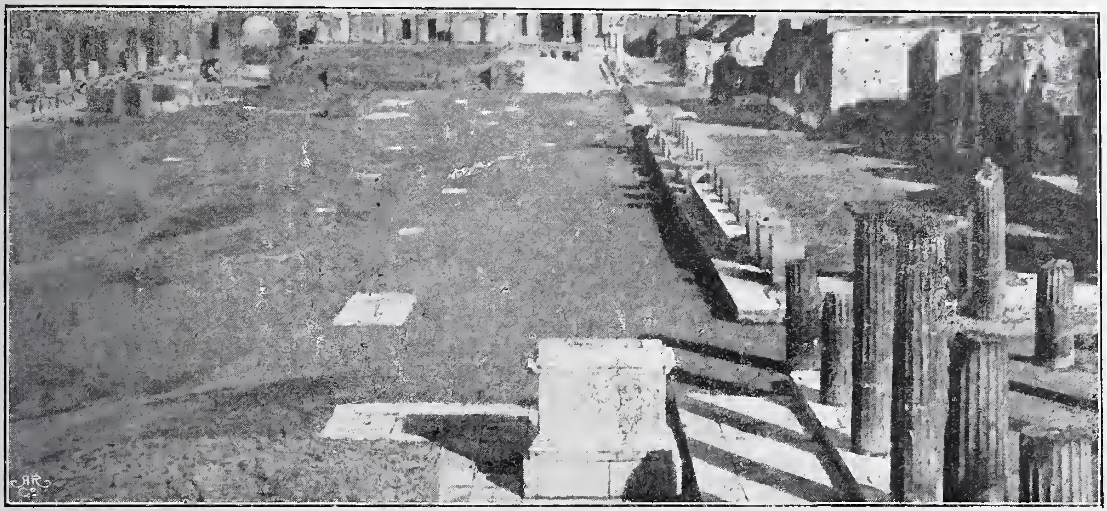


(From Mr. Mowbray Green's *Eighteenth-Century Architecture of Bath.*)



ST. JAMES'S STREET SOUTH, BATH.

(From Mr. Mowbray Green's *Eighteenth-Century Architecture of Bath.*)



FALL OF THE CAMPANILE OF ST. MARK'S, VENICE.

By Luca Beltrami

[*Hon. Corr. M.*, Milan], Director for the Conservation of Monuments in Lombardy.

THE fall of a monument of such exceptional importance as the Campanile of St. Mark's, Venice, could not fail to produce a vivid and painful impression on all sides, owing to its imposing mass, its intrinsic interest to artist and historian alike, and the countless memories associated with an existence of over one thousand years. Towering as it did above all other monuments in a city distinguished no less by its singular conformation than by its wealth of artistic and historical associations, the Campanile of St. Mark's supplied the dominant note in the traveller's synthetic impression of Venice. It was the centre round which those who had visited the city found it easiest to group their memories of Venice; it was the attraction, the immediate and manifest goal of those who still looked forward to such a visit. It is not difficult to understand, therefore, that its sudden disappearance has left a void to which the mind refuses to adapt itself, and people naturally desire some immediate explanation of the catastrophe, as though this might help them to accept with resignation an occurrence to which the imagination at first refuses credence.

The very gravity of the disaster makes one hesitate to formulate the causes which led to it, with that precision which the general demand for a prompt explanation renders desirable. In order to define the main elements of the catastrophe and prepare the mind to form a full and exact conception of them, a careful study of the facts is required, and these cannot be fully known until the results of the inquiry now set on foot with a view to ascertaining, as far as possible, the causes of the unexpected collapse, are made public.

Though the early chroniclers are unable to agree as to the precise date of the foundation of the Campanile of St. Mark's, it seems probable that the work of construction was begun by Pietro Tribuno Memmo, who filled the post of Doge from A.D. 888 to A.D. 912.

At this date excavations were made down to the stratum of clay found over large portions of the alluvial gravel of the Venetian lagoon, which was reached at a depth of only 84·30 metres. A footing was obtained in this clay by means of piles formed of tree-trunks, 0·26 metre in diameter, this pile-work being made to extend to the zone surrounding the foundations. On top of the piles was placed a *zatterone*, a solid raftlike structure consisting of a double layer of planks, and on this were erected the foundation walls, consisting of six courses of large stone blocks, of which the lowest course, resting on the *zatterone*, projected about 0·35 metre on every side for the purpose of increasing to some extent the area of the base.

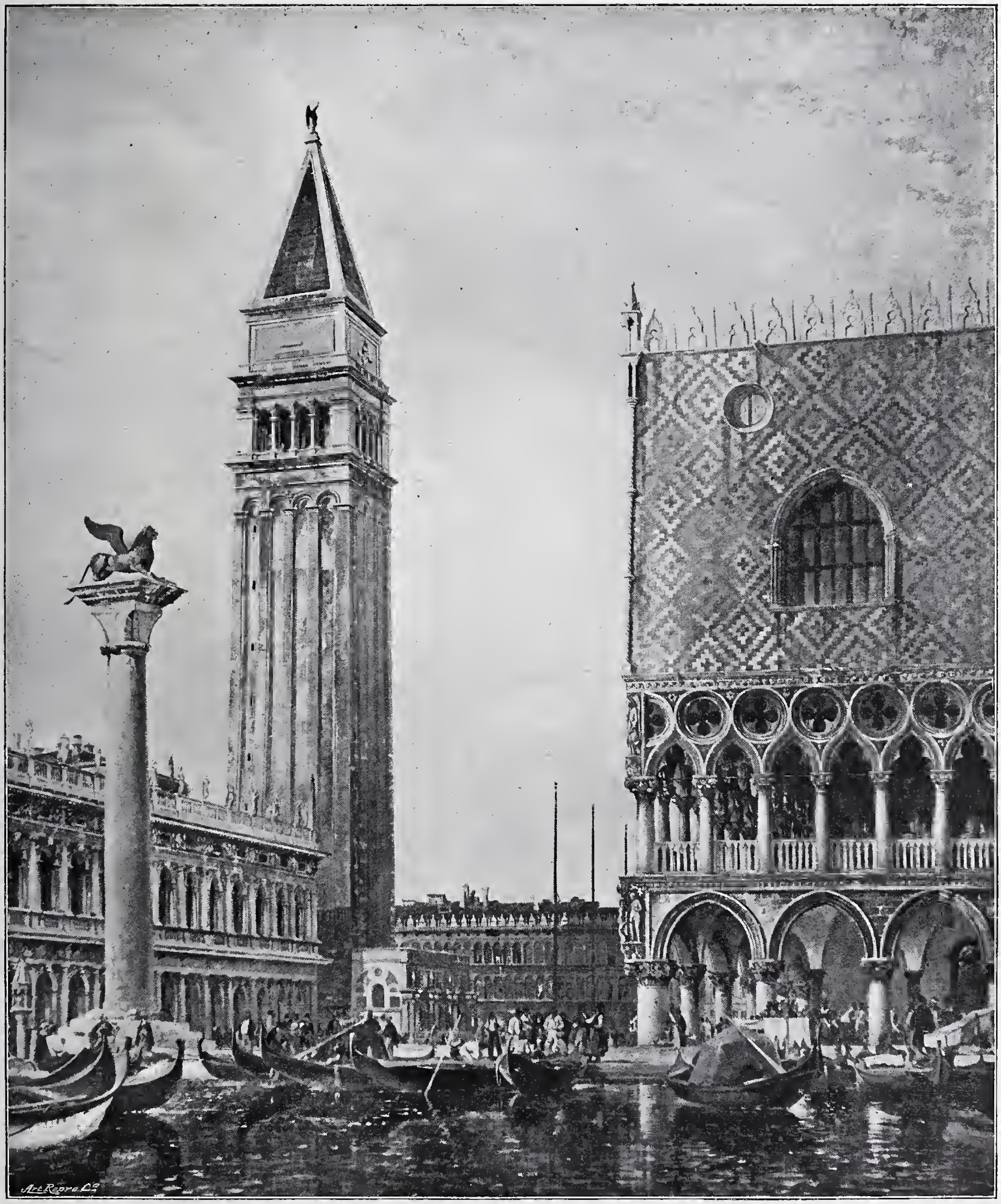
These details, which we owe to the painstaking researches carried out in 1885 by Cav. Giacomo Boni, the architect at present in charge of the excavations in the Roman Forum, have discredited once and for all the old tradition, according to which the foundations of the Campanile are said to have been carried to a fabulous depth, with a consequent large increase in the area of the base. As a matter of fact, the foundations prove to have been out of all proportion to the remarkable height of the Campanile, the actual ratio being less than 1 to 20. This circumstance suggests the following questions:—Was the total height—of 100·32 metres above the ancient level of the Piazza—to which the Campanile eventually attained, really the height contemplated by its builders when they fixed the depth of the foundations? Or was this height gradually added to, in the course of works which extended over six hundred years, until the superincumbent load came to exceed the limits which the foundations were able to support?

In endeavouring to answer these questions, we must first of all note the fact that, in spite of there being no records or drawings of the original plan, we are driven to the conclusion that the height originally contemplated by the builders of the ninth century can have been but little lower than that which was eventually attained in the early part of the sixteenth century, and which remained unchanged until the last few days. As a matter of fact, the lower part of the Campanile, with its little angle windows following the course of the inclined planes leading to the upper portion, rose to a height of about 54 metres, a height which we may assume to have been in harmony with the plans used in laying out the foundations, for, since the base was 12·80 metres square, the height of the solid portion of the Campanile was little more than four times its breadth. Nor are we justified in assuming that when the work of construction was first put in hand there was any intention of adopting more squat proportions, since it is manifest that the idea was to add to the impression of slenderness by means of the pilasters, connected above by arches, on the four sides of the tower.

This height of 54 metres was not reached till the days of Domenico Morosini, who was Doge from 1148 to 1156, and whose portrait in the great Council Hall of the Ducal Palace serves to record the fact that "sub me admirandum opus campanilis S. Marci construitur." An offering of two hundred pounds, Venetian currency, made by one Ottone Baseggio in 1133 "in order that the tower may be completed," tends to confirm the supposition that it was about the middle of the twelfth century that the bell-tower was finished, although the belfry itself was still to be added.

This massive lower portion, with its internal inclined planes supported by pillars connected one with another by series of arches, was composed for the most part of bricks 0·08 m. in thickness, with sides 0·40 m. square, in imitation of the Roman brickwork, reinforced at the outer angles with a few courses of Istrian stone. It should, moreover, be noted that it was not long before this lower part of the building suffered injury. The fire which broke out in Venice during the massacre of the Candians in 976 A.D. extended as far as the base of the Campanile.

In the latter half of the twelfth century it was decided to add to the tower the *loggia* or


Art Repro Co.

THE PIAZZETTA OF SAN MARCO, VENICE, WITH THE LION COLUMN, THE BIBLIOTECA, THE CAMPANILE, AND PART OF THE DUCAL PALACE, ETC.

(From the picture painted on the spot by the late E. W. Cooke, R.A., F.R.S., about 1864.)

belfry and the famous *coronamento cuspidale*. In regard to this part of the work we must assume that the original idea was not carried out in the building which has just perished. Undoubtedly an arched belfry must have been contemplated in the original plans; but the cusp was meant to rise directly above this belfry, in a conic or pyramidal form and not with a square base, and placed on top of a heavy attic, as was the case in the design afterwards adopted. The total height, therefore, originally intended was somewhat less than that actually attained in 1517. It ought properly to have been about nine metres lower, this being the measurement of the almost solid mass, devoid of openings, which the builders insisted on interposing between the belfry and the heavy pyramidal roof—with a result which, as we now see, was questionable from both the technical and the æsthetic standpoint.

It was about 1173 that the first belfry was erected through the agency of Maestro Barattiero, but this must have been a somewhat unstable piece of work, since we find it had to be repaired or renewed in 1329 by Maestro Montagnana. From this date onwards the records are less scanty, and we read of various injuries sustained by the Campanile. In addition to others of which no record has been kept, there was a fire, close to the Campanile, during the festival at the accession of the Doge, Michel Steno, in 1400; in 1417 the woodwork of the roof was set on fire by lightning; in 1436 another conflagration destroyed the shops round the base of the Campanile. All these accidents must have inaugurated a condition of decay in various parts of the building, which was destined in the course of time to produce its results. In 1490 the belfry was again damaged by one of the numerous thunderbolts attracted by this great mass towering above the lagoon. It was, therefore, decided in 1510 to rebuild the *loggia* in a more substantial form. The records tell us that the task was entrusted to a certain Maestro Buono, but an earthquake interrupted the work and prevented the bells from being rung for several days. In 1514 both the heavy attic and the pyramidal roof were at last completed, and in 1517 the revolving statue of the Angel Gabriel, a lily in its left hand, its right raised in the act of benediction, attracted the eyes of all who sought to learn the direction of the wind. Thus more than six centuries had passed before the original purpose of Pietro Tribuno Memmo was realised.

It is scarcely a matter for surprise that, in planning a total additional height of 44 metres from the floor of the belfry to the head of the angel, the builders should have omitted to take into account the limits of resistance possessed by the foundations, when we remember that a tradition fortified by the lapse of centuries asserted that the foundations had been carried down to a fabulous depth. Moreover, the lower part of the tower, although it had been in existence for hundreds of years, showed but little deterioration, with the exception of a slight subsidence of but little importance compared with that of other less daring structures in Venice. This, too, in spite of the fact that the roof added in the early part of the sixteenth century had raised the load on the foundations to the not inconsiderable figure of six kilogrammes per square centimetre of their total area.

It should be added that this important addition to the height of the Campanile had the effect of exposing it to much greater risks from electrical discharges. In 1548, 1565, 1656, 1745, 1761 and 1762, lightning wrought havoc on its mass of masonry. A remedy for this was found in the lightning-conductor fixed on the tower by Toaldo in the year 1776, but, unfortunately, this was subsequent to the thunderbolt of April 23, 1745, which wrought greater damage to the Campanile than it had ever before sustained, causing no less than thirty-seven fissures, the repair of which, though carried out with insufficient thoroughness, involved an expenditure of 8,000 gold ducats.

These various circumstances must not be lost sight of in any attempt to trace the causes of the catastrophe of the 14th of July last. The mass of masonry, erected without

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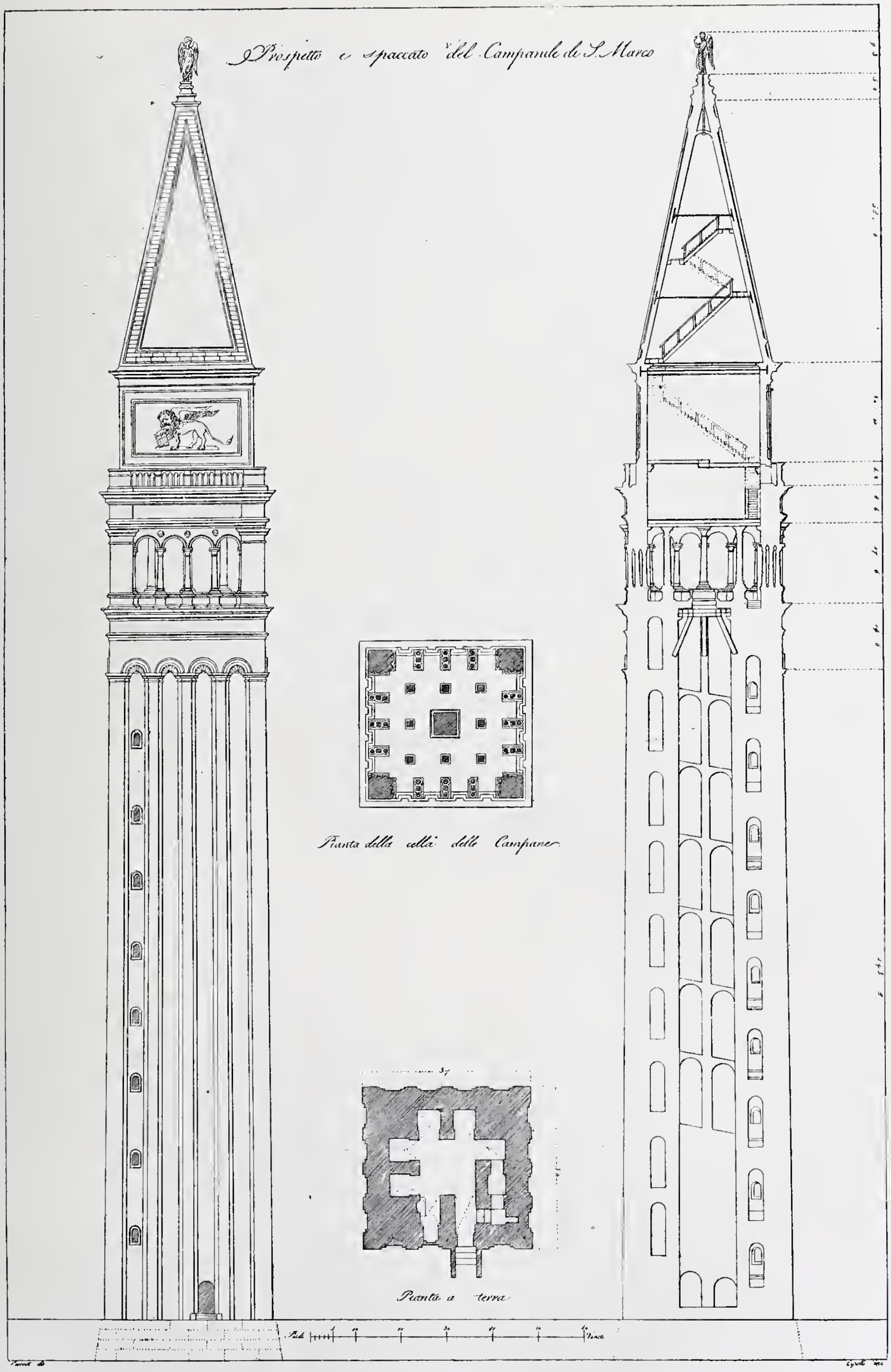
Prospetto e spaccato del Campanile di S. Marco
Pianta della cella delle Campane
Pianta a terra
Piedi
Venete

THE CAMPANILE OF SAN MARCO, VENICE: PLAN, ELEVATION, AND SECTION.

(From Cicognara's *Fabbriche e i Monumenti cospicui di Venezia* [1838-40].)

any special precautions in the way of binding the materials together, exposed as it was to unusual pressure, and shaken by thunderbolts and earthquakes, must have undergone a slow but continuous process of disintegration in its general structure, and of actual fracture in some places, with the result that it was reduced to a condition of precarious stability. This is the first conclusion with which we are confronted, and it would by itself serve to explain the sudden catastrophe that has occurred. Nor need we believe that the causes of this catastrophe are even partly to be sought for in the foundations, even admitting that these may have been disproportionate to the mass which they so long supported. Had there been any kind of movement in the foundations, it would have been evidenced by a disturbance of equilibrium in the building before and during the catastrophe itself: whereas the *insaccamento* of the *débris* and their minute disintegration lead one to believe that the masonry, already affected by serious general decay, had become, as it were, devoid of all power of resistance, and thus readily lent itself to a reopening of the old wounds of 1745. And here we come face to face with the question as to how far the recent catastrophe might have been avoided, retarded, or minimised.

In order to reply to these questions, it would be necessary to know the exact condition of the Campanile during the ultimate phase of its existence—*i.e.* from the instant when the movement which eventually led to its downfall first became apparent. The extreme brevity of this ultimate phase (three days, nineteen hours), and the complete collapse of the whole mass, prevented and still prevents us from obtaining the data necessary to reconstruct the history of this phase and draw the necessary deductions therefrom. An inquiry has been promptly opened by the Minister of Public Instruction, Signor Nasi, and the Committee assembled at Venice shortly after the disaster. The Committee of Inquiry may, perhaps, succeed in collecting enough facts to enable them to trace the development of the catastrophe, and throw light on what may have been its most probable immediate cause. In the meantime we must content ourselves with the few data at present known and sufficiently authenticated. In the first place it will be of interest to remember that for some years past considerable apprehension has been felt in regard to the stability of the Campanile. We must not, however, attach undue importance to pronouncements which, since the disaster, have been and will doubtless continue to be published by persons who imagine that they can now claim credit for having foreseen its downfall all along. These prophets confined themselves for the most part to the expression of fears based on mere impressions and totally unsupported by any profound knowledge of the actual condition of the monument. A proof of this may be found in the fact that no specific proposal accompanied any of their prophecies, while the utmost that those who possessed a first-hand knowledge of the actual state of the monument could have done in the way of sounding a reasonable and effectual alarm would have amounted to some such warning as this: "The Campanile of St. Mark's was built at various periods of time, from various materials, by various processes. After standing for centuries, it is now in a dangerous condition, and your first duty above all others is to avoid any innovation or meddling which may tend to aggravate its precarious state." This was the essential condition on which a prolongation—though not an indefinite prolongation—of its precarious condition might be hoped for.

Actual measures of general restoration did not appear to be so easily advisable. In fact, even if men had realised how far the general decay of the walls had progressed, it would not have been a case of pronouncing on the probable result of clamping with iron girders or even on the effect of underpinning, since neither the one nor the other would have proved efficacious or even advisable, except in dealing with defects confined to special parts of the whole mass, or in case it had been found necessary to restore certain definite portions of the building. In other words, even if the catastrophe had not been so sudden, it would have been very difficult—if not altogether impossible—to devise or adopt any measures which would have proved truly radical and efficacious. By this I do not wish to imply that the condition of the Campanile should have been viewed with fatalistic indifference, or that we ought to have awaited with resignation the moment of its downfall. For instance, there was one fissure, which, though insignificant in appearance, and therefore treated as of little consequence, suddenly became very serious and proved to be one of the determining factors in the final catastrophe. It will be remembered that there were close to the corners of the Campanile—to be precise, along the left side of each of its internal walls—a series of small windows which served to light the various inclines leading to the belfry, there being one window to each of the landings forming the turnings of the inclines. These small windows, of which there were eight on each side of the Campanile, were very happily arranged in so far as the purpose of giving light to the various parts of the inclines was concerned, but occurring, as they did, in close proximity to the corners of the tower, they constituted an effective source of weakness. It will be readily understood, therefore, that a crack which began at the lower window on one of the sides of the Campanile and extended as far as the last window but one, thus placing the various window openings in communication with one another, meant a very extensive solution of continuity—and this in a vertical direction—between two of the faces of the Campanile.

As luck would have it, this fissure, which was not very alarming in appearance, and from the nature of the case did not extend very rapidly, was not kept under proper observation by those responsible for the good preservation of the monument. In fact it is barely five years since the Board for the Preservation of Venetian Monuments—its attention having been called to the intrinsic, if not apparent, gravity of this fissure—took occasion to publish in its Annual Report the following note—a note which illustrates better than any words of mine its light-hearted method of dealing with the apprehensions then expressed: "One of the usual rumours whispers that the Campanile of St. Mark's must inevitably fall down, because some portions of the old wall have been picked up in the caretaker's rooms, the said portions being attributed to the extension of a crack. Now the caretaker's dwelling has been in its present state for about a century, as may be seen from the drawing by Cicognara (in his *Fabbriche più cospicue di Venezia*), and the fissure appears just as it is now in very early photographs of the Campanile; in other words, there has been no sign of this terrible extension of the fissure for many years." The choice of the factors on which this conclusion is based is sufficiently primitive! As a matter of fact, the moment the necessity or opportunity arose for silencing the voice of the alarmist, the Board, which has its offices within a few yards of the Campanile, ought to have made inquiry and published to the world the nature of the fissure which had given rise to anxiety, instead of contenting itself by quoting the authority of a picture which left the hands of the frame-maker a hundred years ago, and referring to an old photograph of half a century back. Still more strange appears the argument that because a crack has been in existence for a hundred years without any sign of increasing it is therefore to be regarded as harmless. As though the natural decay due to the lapse of time, and the unforeseen yet not impossible changes due to subsidence, shock or other causes, did not in themselves furnish good reason for refusing to adopt thus readily a conclusion of such a fatalistic nature.

A more prudent attitude in regard to this crack would have sufficed, and the adoption of some precautionary measure—such as the filling in of the windows situated on the line of fissure, in order to restore the solidarity of the two external walls of the Campanile that had become detached, and to prevent any change, however slight, in the general conditions of the building, due perhaps to some ill-considered innovation, or even to circumstances of a purely fortuitous and unforeseen character—would have put an end to that widening of the injury which in two days became threatening, on the third day showed that the evil was beyond remedy, and within the brief space of ninety hours led to a catastrophe. For while the defects observed in structures which have to withstand not only the purely static action of weights exercising pressure in a vertical direction, but also the dynamic effect of the thrust of arches or vaultings, may be a source of alarm from the moment of their appearance owing to their manifestly progressive character, it by no means follows that defects in structures which are not called upon to withstand any such thrusting action—as in the case of the Campanile of St. Mark's—should not be regarded with apprehension. For though they may not present those progressive characteristics which call for immediate remedial measures, they indicate none the less surely a condition of unstable equilibrium in the monument; and a day must come when some seemingly trivial cause proves sufficient to determine a catastrophe, and finds the general structure predisposed to second the first movement and aggravate it with phenomenal rapidity.

This was the case with the Campanile of St. Mark's. The determining factor in the catastrophe must, of a surety, have been some circumstance of trivial importance compared with the final effect produced, but this does not lessen the culpability and shortsightedness of those responsible. The recriminations which have accumulated during the last few days in the Venetian newspapers and in the interviews with persons more or less compromised by the disaster make one reluctant to enter on a more detailed examination of the catastrophe while an inquiry is still pending. There is, however, one inference which may fairly be drawn from the facts before us. The very multiplicity of the accusations and disclaimers and the eagerness with which responsibility is denied are in themselves conclusive evidence of the disorganisation and inefficiency of those responsible for the preservation of monuments in Italy. For years past every one in Venice has been familiar with the endless antagonisms, friction, rivalry, and quarrelling between the persons charged with the maintenance of the more important monuments. For years past they have witnessed the continual iteration of charges, impeachments, and alarms. Time after time have ministerial committees intervened to put things right, with invariably illusory results. It is the men rather than the monuments who play the leading part in these disputes. And the central authorities have allowed matters to go on from bad to worse, partly through weakness, partly from personal motives. The staff entrusted with the preservation of the monuments throughout the kingdom, undermanned, ill-paid, and worse treated to begin with, finds itself still further weakened by the addition of men who owe their appointments to the most unblushing favouritism. Thus, while architects of no ordinary merit, honest, and energetic, are left on one side or even attacked, we see employés, nominated without the slight guarantee either of honesty or good character, strutting in borrowed plumes. This is the weak spot in the guardianship of the artistic patrimony of Italy, and there is little hope of improvement in the future so long as respect for the efficacy of the law and upright government is confined to the central administration.

Happily, we find in the people even more than in the government a growing sense of the important influence which our artistic patrimony exercises on the material comfort and moral influence of the nation. The consternation of the people in face of this unforeseen disaster, the confidence and eagerness they have shown to obliterate remembrance of it by the re-erection of this superb monument, prove how deeply seated this sentiment is in the popular mind. Let us trust that the Campanile may not rise again to find the squalid disputes fomented by the ignorance and stupidity of the central administration still raging round its base.

Should this be so, we shall have reached a point where it will be necessary to call upon the whole civilised world to take part in guarding monuments which, while forming the boast of a single people, are yet the intellectual inheritance of all, a fact that is proved by the profound echo which the disaster at Venice has awakened among the nations.

JOHN FRANCIS BENTLEY: A MEMOIR. By T. J. Willson.

THE death of Mr. John Francis Bentley on the 2nd March, from paralysis, was painful to all who knew him, the more so as it was sudden. To these and to the profession at large, his death caused a significant void, for it was confidently anticipated that on the following Monday, the 3rd March, the Institute would have confirmed the nomination of the deceased architect, and presented his name as worthy of receiving the Royal Gold Medal as a distinction due to his executed works. Instead of this gratifying office, it was only possible for the President, in his remarks to the Meeting upon the most melancholy occurrence in the annals of the Institute, to express the regrets, the dismay almost, that would occupy the minds of his professional brothers on learning that one deemed so happy in their approbation had but the very day before passed out of life.

Mr. Bentley was born at Doncaster in January 1839. A third son, one of a large family, he displayed resolution and talent in his boyhood. A model by him of the grand parish church (burnt in February 1853) is a proof of his early devotion and untiring energy in every pursuit; it was mainly from recollection. He had been allowed "the run" of the Clerk of the Works' office at the rebuilding, and to study the excellent drawings which issued from Mr. Scott's office. By assisting to set out work, valuable knowledge came rapidly. When but sixteen he acted voluntarily as clerk of works on the restoration of Loversall Church, and upon a difficulty in having some wood-carving done, he put his hand to the gouge and himself executed it.

His father, distrusting fine art as a career for his promising son, desired to place him as a pupil in mechanical engineering, and was in correspondence with Messrs. Hawthorn & Co., also with Messrs. Sharpe, Stewart & Co., of Manchester, and young Bentley seems to have begun a probation in the workshops of the latter firm, and for a short period to have donned the "moleskin" suit proper to the calling. In 1855 it was arranged that he should learn building at the establishment of Messrs. Winsland & Holland in London, where his father placed him in August of that year. His employers much appreciated and trusted their pupil, who showed marked aptitude in business during the three years he stayed. His father having died late in 1856, it was by the friendly advice of Mr. Richard Holland, who perceived evidence of rare talent in him, that Bentley entered the office of the late Mr. Henry Clutton, in the spring of 1858, and took an active part in the design of churches, mansions, and various works forming part of an extensive and highly-connected practice.

Mr. Clutton was a convert to the Catholic faith, and certain ecclesiastical buildings were from his designs; so here it may be conjectured Bentley became in a degree familiar with the externals of that worship, one of the last works he was engaged upon being the sedilia and the Sacred Heart chapel at the well-known Farm Street Church of the Jesuits. Before the end of 1861 he was received into the Catholic Church.

Seven years having been spent in London, the ambition to be independent and to enter into practice was strong, and although Mr. Clutton made overtures of a share in his business, Bentley declined an assured income, and in May 1862 was established in chambers in Southampton Street, Covent Garden, on his own account, with moderate prospects, still not without active friends, and possessed of more constructive knowledge than most of his years, and of an inventive talent even then obvious. These seven years had been a time of incessant application; his after hours were spent often at the Architectural Museum in modelling, sketching, and in original designs.

The Rev. H. A. Rawes, of St. Francis' Church, Notting Hill, was, at this anxious period of life when patrons were rare, a true friend in his appreciation and assistance. For him Bentley designed the font and baptistery and porch of St. Francis. The altar of St. John, with paintings by his friend Mr. N. H. J. Westlake, was from his design and much praised. Later the high altar was designed by him.

He designed works for the great Exhibition in London in 1862, also a stained glass window for the Paris Exhibition in 1867. Commissions for works of domestic and ecclesiastical character flowed in, and a manifest talent for design in subsidiary art (including stained glass, goldsmiths', as well as brass and iron work, at times embroidery and painted decoration) brought much employment.

During all these earlier years, as friends acknowledged, no one could have been more painstaking and industrious; and to those who know how inadequate is the emolument upon small commissions, the expenditure in thought and labour appears exacting in a high degree. A friend, on calling after work hours, would find him still at his desk, and learn that he had not set foot out of doors the entire day—too sedentary a habit, it may be feared, for a constitution never robust.

By degrees larger works came in the way, some commercial premises and a house at Sydenham for W. Sutton, Esq., besides a number of ecclesiastical works, the chapel and additions at Taunton Convent among them. In 1866 the adaptation of an old Sussex house at Heron's Ghyll, for Mr. Coventry Patmore, was successful in the reality and quietness of its style.

An altar and lofty reredos of alabaster for St. Charles' Church, Ogle Street, attracted deserved attention. It contained a set of well studied and beautiful paintings by Mr. N. H. J. Westlake, executed on slate. The result of using polished alabaster, from which the accumulation of our atmosphere could easily be removed, is scarcely successful. As to the paintings so justly admired, an ignorant " decorator " has long ago, alas! touched and spoilt them with his varnish.

In these works the sound practical training of early days was realised, and, junior as he was, his construction and detail showed that nothing was left to the discretion of the builder, the surveyor, or still more of the clerk of the works; for not only the design but its method of execution was equally thought out and rigidly carried into effect. At all times constructive or ornamental detail met with studious attention: the joinery of a deal door equally with that of a screen or an organ-case.

In common with some intimate friends, Mr. Bentley, although solicited, invariably refused to submit a design in competition, regarding the system as unreasonable theoretically, while in effect misleading as to the discovery of true merit or inventive power, and positively hurtful when estimated cost and actual expenditure come to be taken into account.

The Seminary building at Hammersmith (1868–70), though now built up to by commonplace schools, is marked by a thorough fitness to its purpose and quiet dignity, with scarce an exception unaccompanied by ornament, such as the continuation of our old English style is apt to suffer from. On its completion it secured admiration in high quarters and was classed as its author's best work. St. John's Preparatory School, near to Beaumont College, Windsor (1884), differing in purpose and scale, and more ornate, is also highly praised, and by many preferred to the Seminary as being more refined.

The works executed for Lord Beaumont at Carlton Towers, Selby, are mainly internal: a Jacobean mansion had been altered and in some degree "Gothicised," when Mr. Bentley was called in to remodel and embellish it. On no work of his life can he have bestowed more pains, as a mountain of working drawings—a large number of them from his own hand—testifies. The decorative works in various material, painting, glass, and textiles, resulted in a most sumptuous habitation, where the chairmaker's and the upholsterer's art followed upon that of the skilled painter or sculptor under one directing mind.

In 1881 complete designs were made, at Lord Beaumont's desire, for a large suite of residences in flats to occupy the then vacant land fronting Hyde Park, westward of the Albert Gate; but the project was abandoned. Fearing for his impulsive client, the architect dissuaded him from proceeding with this speculation, and thus courageously sacrificed his own interest in so doing.

In church building, the additions during thirty years of extra north and south aisles and of a baptistery and lesser chapels successively at St. Mary's, Westmoreland Road, Bayswater, furnish interesting study in architectural variety and progress, and are no less remarkable on account of their altars, glass, and metal work. The high altar and pulpit, however, were designed by other hands. A church and presbytery at Cadogan Street (1875), and one at Bosworth Road, Kensal New Town (1880), are brick edifices simple in outline and in most details, showing both care and originality throughout. The still unfinished church of Corpus Christi at Brixton, designed in 1885, exhibits in its eastern part a building of superior scale and the promising features of a stately church.

Various works undertaken for the Redemptorist Fathers at Bishop Eton, Liverpool, and at Clapham, cover many years; a high altar, pulpit, and various decorative additions at the former extend from 1865 onwards. The restorations at St. Mary's, Clapham, originally built with Caen stone dressings, the transept added to it, as well as the building of a new monastery adjoining, were completed in 1894. One work, small in size but of unusual unity and completeness, is the Lady Chapel at St. Mary's, executed in 1883, which has evoked general admiration, and is held up by some artists to be its author's *chef-d'œuvre*. Its floor, its wall and ceiling, its traceried windows and their storied glass, are alike harmonious and delicate, though not refined to any approach towards weakness. The altar, reredos, canopy, and brattishing show equal invention and fitness, the only regret now being that the light is hardly sufficient to display the many forms and colours to advantage.

In 1892 his friend, Mr. Taprell Holland, entrusted to him the design of Holy Rood Church at Watford, which may be fairly looked upon as a test of invention and skill furthered by a generous patron. The result has in a corresponding degree called forth the favourable remarks and admiration of competent critics, who look on it as a foremost example of how to use mediæval ideals under the circumstances of our time. Much the same may be said of the several altars, painted windows, mosaics and decorative works designed for St. James's, Spanish Place, during many years; the bronze reredos of the high altar is now being completed.

Much similar work may be cited from churches in Liverpool, at Ushaw College, also at St. Peter's, Doncaster, an early Pointed church designed by his friend Mr. C. Hadfield [*F.*].

A mansion at Ascot, Berks, for Mr. Maxwell Stewart, and a private chapel for Mr. C. J. Stonor near there, were built in 1885–90; and in 1897 a convent for the Franciscan nuns at Braintree, Essex, a simple dignified building joined to an older house. Their church, in the manner of the end of the fifteenth century, consists of a nave in which is the nuns' choir with its stalls, and a chancel into which opens a transept for parochial use, having a view of the altar apart from the community.

Of the works entrusted to Mr. Bentley by the Anglican body were the two City Churches of St. Botolph at Aldgate and Bishopsgate, 1893–4, in both of which his anxiety was to interfere as little as possible with the traditional style following Wren's time. On the other hand, the plasterer's work in the ceilings of Aldgate Church is original and spirited, the parish traditions being illustrated by heraldic shields supported by winged figures. At Holy Trinity Church, Minories, some work of restoration and alteration was done; also at St. Mark's, North Audley Street, where a marble wall-lining was added.

The brass cross and candlesticks of the north-west chapel in St. Paul's Cathedral were designed in 1874, also some mosaic ornament.

At St. John's, Hammersmith, he erected an organ-case and a sacristy, and added some internal decoration, to the satisfaction of his friend, Mr. Butterfield, who had retired from practice.

In 1899 he built at Chiddington, Penshurst, a new church, a memorial, a structure entirely of Bath stone in the local style of the sixteenth century, consisting of a nave, chancel, and tower surmounting the organ-chamber, all simple in detail, and careful as to form.

In 1894, Cardinal Vaughan, who had known Mr. Bentley in his early career, commissioned him to design a cathedral church for the site near Victoria Street, Westminster. It was to be of ample dimensions, giving a wide, uninterrupted view of its sanctuary and high altar; to contain larger and smaller subsidiary chapels; to be monumental in character, and yet capable of being expeditiously carried out, and without unduly heavy expenditure.

Such conditions were truly a challenge, which the architect may be said to have worthily taken up with ability and courage. His preconceptions were against the long-drawn perspective of pier and arch, at the same time to fall back on a round-arched style more remote than our Western instances of the Romanesque; and no doubt the recent publication upon Santa Sophia, by Mr. Lethaby and the late Mr. Swainson, strongly influenced him. The use of large masses of brickwork, of concrete, and of rapidly setting cement, favoured some of the conditions, and rendered possible the result which the dearness of labour might have frustrated; so this building has deservedly attracted the attention of the engineer, along with the practical architect and the man of art.

In November 1894, Mr. Bentley started on a visit to Italy, not in the best of health, to meet, unfortunately, the severest winter known there for eighty years. Staying at Milan, Pavia, and Florence, he spent Christmas in Rome, seeing all he possibly could there, unfavourably impressed with most of the architecture of the Renaissance, at St. Peter's and elsewhere. Umbria was next visited with great delight; Assisi, and after that Ravenna, which had to be reached through snow, and then a most fatiguing journey necessitated complete rest at Venice before exploring its wonders and settling down to study the Basilica of St. Mark, his chief object. Before this time the project of a tour including Constantinople had to be given up, and returning by Turin, after a few days in Paris, he reached London in March 1895.

The foundation stone of the cathedral was laid on St. Peter's Day, 29th June, of the same year.

In May 1898, Mr. Bentley visited the United States at the wish of the Bishop of Brooklyn, to advise upon his intended cathedral, a design for which had been made by a deceased architect of New York. The great difficulty, that of reliable foundation in its deep alluvial soil, necessitated serious and protracted consideration. The newly appointed architect set his face against the use of iron columns and other artificial methods, and having investigated the selection of suitable stone, brick, and other materials, he returned to England in July, insufficiently rested by the voyage, to resume his usual work, and to elaborate this new design. The Mediæval Style seemed to him best to meet all requirements, and the drawings show a complete Gothic church about 350 feet in length, having two western towers, and a boldly-treated lantern at the intersection of the transepts. Its style may be classed as "advanced," there being flowing traceried windows and other features of a late period.

The duties relating to ordinary works in his practice, some of them minute and requiring inventive skill, besides those of the completion and fittings of his great work at Westminster, seemed to overtax his strength. He denied himself too often the rest he was advised to take, and in November 1899 a sudden weakness pointed to a paralytic affection. After some repose, work was steadily resumed; but in June next year another warning came, and the vocal organs were affected, rendering speech difficult. Courage and patience enabled him to continue working on for nearly two years longer, and, pencil in hand, he pursued his work within a few hours of the seizure of 1st March, 1902, which ended fatally the following morning.

Mr. Bentley leaves a widow and a large family, of whom his second son is following his father's profession. Personally, whilst reticent and firm of resolve, he was a true friend, kindly, considerate, and much beloved.

INCORP. 1837 1887

9, Conduit Street, London, W., *26th July* 1902.

CHRONICLE.

THE MIDSUMMER EXAMINATIONS.

Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the various non-Metropolitan centres indicated below on the 10th and 11th ult. Of the 207 candidates admitted, forty, having furnished satisfactory evidence of their attainments, were exempted from sitting. The remaining 167 sat for the examination, with the following results:—

	Passed	Relegated	Total
London	67	20	87
Birmingham	8	—	8
Bristol	9	—	9
Exeter	5	—	5
Leeds	15	2	17
Manchester	24	3	27
Glasgow	4	1	5
Newcastle	8	1	9
	140	27	167

The passed candidates, with those exempted—numbering altogether 180—have been registered as Probationers. The following are their names and addresses:—

ADAMS: Henry Eustace; 162, Brixton Road, Brixton, S.W. [*Masters*: Messrs. H. H.* & M. E. Collins].

ADDIS: David Malcolm; 34, Hermitage Gardens, Edinburgh [*Masters*: Messrs. Hay & Henderson].

ALLNER: James; c/o R. Basnett Preston, Esq., Diocesan Chambers, Manchester [*Master*: Mr. R. B. Preston *].

BAILEY: John Ernest; Bushy Heath, Herts [*Masters*: Messrs. Hudson * & Hunt *].

BAMFORD: Dennis; c/o Edgar Wood, Esq., 78, Cross Street, Manchester [*Master*: Mr. Edgar Wood *].

BANKS: Thomas Moffat; 75, Greenbank Road, Darlington [*Master*: Mr. G. G. Hoskins *].

BARGMAN: Robert Frederick; Horsham Road, Dorking [*Masters*: Messrs. Bargman & Benison].

BARNSLEY: William John; 38, Bradford Street, Walsall [*Master*: Mr. J. Geo. Nicholls].

BAXENDALE: John; 48, John Street, Bolton [*Master*: Mr. Walter R. Haworth].

BEESTON: Humphrey Albert; Eastbrook Place, Dover [*Master*: Mr. W. Beeston].

BELL: George Angus; 30, Melbourne Road, Leicester [*Masters*: Messrs. Blackwell & Thomson *].

BEVAN: Oswald Percival; Hortonia, Bridgend, Glam. [*Master*: Mr. George F. Lambert].

BLAKEY: William George; 12, Victoria Terrace, Sunderland [*Master*: Mr. Geo. T. Brown].

BOOTH: Herbert; c/o Messrs. Thos. Winn & Sons, 92, Albion Street, Leeds [*Masters*: Messrs. Thos. Winn & Sons].

BOYD: George Pratt; 2, Ivy Place, Berwick-on-Tweed [*Master*: Mr. W. Gray].

BOYD: Joseph; 309, Oldham Road, Longsight, Oldham [*Masters*: Messrs. Heywood & Ogden].

BRADDELL: Thomas Arthur D'Arcy; 32, Mount Park Crescent, Ealing, W. [St. Paul's School, West Kensington].

BRAMBLE: Albert Victor; The Lindens, Horndean Road, Emsworth, Hants [Grammar School, Portsmouth].

BRENTON: Philip Silverthorne; Rockleigh, Combe Park, Weston, Bath [Exeter School].

BRIDGMAN: Gordon Brock; 1, Camden Square, N.W. [City of London School].

BROUGH: Wilfred James; Eversley, 29, Alexandra Villas, Finsbury Park, N. [*Master*: Mr. C. Val Hunter *].

BROWETT: Eric Montague; Holmlea, Richmond Road, Wolverhampton [*Masters*: Messrs Riley & Smith].

BROWN: Ernest Osman; Old House, Christchurch, Hants [Architectural School, King's College, London].

BUCKNILL: John Charles, B.A.; 134, Queen's Gate, S.W. [*Master*: Mr. William Harvey *].

BURROW: Robert Guy; 4, Penrhyn Terrace, Old Trafford, Manchester [*Masters*: Messrs. J. W. Beaumont * & Son].

CABLE: James Sydney; 11, Acre Lane, Brixton [Architectural Association Day School].

CALDER: Gilbert James; 26, Cloudesdale Road, Upper Tooting, S.W. [*Master*: Mr. C. Val Hunter *].

CHETWOOD: Henry John; The School House, Felsted, Essex [Felsted School].

CHISHOLM: David John; 47, Gilmour Road, Edinburgh [*Masters*: Messrs. Dick Peddie & Washington Browne, R.S.A.].

CHRISTIAN: Charles Wesley; Romsdal, South Fosse, Leicester [*Master*: Mr. A. E. Sawday *].

CLAPSON: Herbert William; 159, High Street, Deptford, S.E. [*Master*: Mr. Eugene C. Beaumont].

COCKRELL: Gordon Lawrence Peach Buckler; 20, Howe Street, Higher Broughton, Manchester [*Master*: Mr. W. Cecil Hardisty].

CONSTABLE: Vernon; 210, Hillhouse Gardens, Springburn, Glasgow [*Masters*: Messrs. James Salmon & Son *].

COOKSLEY: William Henry; Graeg House, Misken, Pontyclûn, R.S.O., Glam. [*Masters*: Messrs. Cook & Edwards].

COOPER: Cecil; Feniscowles Old Hall, near Blackburn [*Masters*: Messrs. Fairbrother & Hall *].

COOPER: Richard Tennant; 45, Waldegrave Park, Twickenham, Middlesex [Tonbridge School].

COPLEY: Henry John: Albany House, Gainsborough [Royal College of Art, South Kensington].

CORNER: Sidney Horace; The Elms, Fratton Road, Portsmouth [Portsmouth Grammar School].

COULDREY: Walter Norman; University College, Bristol [University College, Bristol].

COVERDALE: John Lawson; 5, Oswy Street, Whitby, Yorks [Whitby Middle Class School].

COWLISHAW: Charles Gordon; Gordon Lodge, Basford, Stoke-on-Trent [*Master*: Mr. W. Campbell].

COX: Herbert; 18, Heathcote Street, Mecklenburgh Square, W.C. [*Masters*: Messrs. J. T. Micklethwaite & Somers Clarke].

DAWES: Olando Robert; The Gardens, Temple Newsam, nr. Leeds [*Master*: Mr. Archibald Neill].

DAWSON: Philip; 12, St. Paul's Square, Liverpool [University College, Liverpool].

DUCKETT: Richard; Miller Arcade, Preston [*Master*: Mr. Mangan].

DUNN: Gerald Morton; 48, Shortlands Road, Shortlands, Kent [*Master*: Mr. W. Newton Dunn *].

DURANT: Frederick Henry; 5, Gloucester Road, Leighton, Essex [*Master*: Mr. Edwin T. Hall *].

EDMONDS: Henry; Frogmore House, Wolverley, nr. Kidderminster [*Masters*: Messrs. Gething & Son].

ELLISON: William Henry; 5, Eldon Street North, Barnsley [*Masters*: Messrs. Senior & Clegg].

FAIRBAIRN: John Rowland; 58, Harlesden Gardens, Harlesden, N.W. [*Master*: Mr. W. G. Ross *].

FAWKNER: William; Great King Street, Macclesfield [*Master*: Mr. C. Russell Hall].

FIELD: Gordon; 22, Vicarage Drive, Eastbourne [*Master*: Mr. W. Chapman Field].

FIELD: Hugh Trevor; 46, Coltman Street, Hull [*Masters*: Messrs. Freeman, Son & Gaskell].

FINN: Edwin; Thornby, Ethelbert Road, Canterbury [*Master*: Mr. W. J. Jennings].

FULLERTON: Thomas William; 22, Kilburn Park Road, Kilburn, N.W. [*Masters*: Messrs. Archibald C. Dickie * & W. Curtis Green].

FULLFORD: Charles George; 47, Castle Street, Salisbury, Wilts [*Master*: Mr. A. C. Bothams].

GELDER: Harold Edward; 365, Holderness Road, Hull, Yorks [*Masters*: Messrs. Gelder * & Kitchen *].

GIBBONS: Joseph George; 29, Westminster Road, Handsworth, Birmingham [*Master*: Mr. Francis B. Andrews *].

GIBSON: George Embleton; 165, Croydon Road, Newcastle-on-Tyne [*Master*: Mr. George J. Stephenson].

GILLIAT-SMITH: Guy Basil; 2, Rue du Vieux Bourg, Bruges, Belgium.

GOLDING: Herbert Haylock; 24, Gresley Road, Whitehall Park, N. [*Master*: Mr. Henry Shaw].

GRIMOLDBY: Arthur; 76, Lowgate, Hull [*Masters*: Messrs. Gelder * & Kitchen *].

GUILLET: James Charles; 37, Bedford Gardens, Kensington, W. [*Master*: Mr. Charles H. Worley *].

GUNDRY: Horace Montague; 21, Warwick Crescent, Paddington, W. [*Master*: Mr. W. H. Scrymgour *].

HALLS: William James; 4, Hills Court, Exeter [*Master*: Mr. James Crocker *].

HAMILTON: Albert Robert; 8, Queen Street, Henley-on-Thames [*Masters*: Messrs. Millar & Nasmyth].

HANDS: Alfred Arthur; 60, Park Road, N.W. [*Master*: Mr. Aston Webb, A.R.A.*].

HART: Daniel Bentley; Oak Lodge, Lodge Place, St. John's Wood, N.W. [*Master*: Mr. Horatio Porter, M.A.*].

HICKS: Henry Leicester; 3, Roseworth Villas, Gosforth, Newcastle-on-Tyne [*Masters*: Messrs. Hicks & Charlewood].

HILL: Alfred; 11, Thornton Lodge Road, Huddersfield, Yorks [*Master*: Mr. G. Marples].

HOLLIS: Henry Clifford; Montpellier, 115 Brecknock Road, N. [Architectural Association Day School].

HOLMAN: Reginald Thomas; 4, The Shrubbery, Topsham [*Master*: Mr. Charles Cole].

HONEYMAN: Herbert Lewis; 233, West Regent Street, Glasgow [Trinity College, Glenalmond].

HOOKWAY: Gilbert John Frank; 44, Foxham Road, Tufnell Park, N. [*Master*: Mr. Octavius Ralling].

HOOPER: Basil Bramston; 21, Crowhurst Road, Brixton, S.W. [*Master*: Mr. J. Salmond].

HOOPER: Frank Billett; Elmwood, London Road, High Wycombe [*Master*: Mr. John L. Kirk].

HUDSON: Thomas; 155, Park Road, Bolton, Lancs. [*Masters*: Messrs. Bradshaw * & Gass *].

HUMPHRY: Harold Walter; 2, Grand Parade, Bournemouth, West [*Masters*: Messrs. Fogerty * & Parnell].

IXER: Sydney Henry Howard; 71, Sisters Avenue, Clapham Common, S.W. [*Masters*: Professors T. Roger Smith * and R. Elsey Smith *].

JACKMAN: Robert Octavius; 27, Brunswick Road, Kingston Hill, S.W. [Polytechnic, Regent Street].

JACKSON: Barry Vincent; The Grange, Moseley, Birmingham [*Master*: Mr. F. B. Osborn *].

JAMES: John Milton; c/o Messrs. S. J. Wilde & Fry, Architects, Weston-super-Mare [*Masters*: Messrs. Wilde & Fry].

JARRETT: George William; 29, Thornton Road, Wimbledon, S.W. [*Masters*: Messrs. Young * & Hall *].

JENKINS: Herbert Lloyd; 97, Breakspears Road, Brockley, S.E. [*Master*: Mr. James Webster *].

JENKINSON: David Barnes; Holmesfield, Kimberworth, Rotherham [*Master*: Mr. Charles Hadfield *].
JOHNSON; George Alfred; Stafford Lodge, Stafford Road, Croydon [*Master*: Mr. Paxton Watson].
JOHNSON: William Albert; 224, Stockport Road, Levenshulme, Manchester [*Master*: Mr. F. E. L. Harris *].
JOHNSON: William Harold; 92, Swinley Road, Wigan [*Masters*: Messrs. W. B. Johnson & Son].
JONES: Charles Thomas; 55, Biscay Road, Hammersmith [Polytechnic, Regent Street].
JONES: Rees Albert Samuel; 65, Dunsmure Road, Stamford Hill, N. [Tonbridge School].
KEIR: William Ingram; 5, Northumberland Buildings, Queen Square, Bath [*Masters*: Messrs. Silcock & Reay *].
KENNARD: Robert Charles; 13, Abington Grove, Northampton [*Masters*: Messrs. Mosley & Scrivener].
KENNEDY: Percy Edward; Longhirst, Morpeth, Northumberland [*Master*: Mr. J. Wightman Douglas].
KIRALFY: Archibald Gerald; Tower House, Cromwell Road, Earl's Court, S.W. [St. Paul's School].
KIRKHAM: Charles Walker; 82, Chorley New Road, Bolton [Bolton Grammar School].
LANGCAKE: Wilfred; 56, Brunswick Street, Broomhall Park, Sheffield [*Masters*: Messrs. W. H. Lancashire & Son].
LEMAITRE: William Courtenay; 113, Finsbury Pavement, E.C. [*Master*: Mr. Percy Green *].
LIDBETTER: Hubert; 8, Chatsworth Square, Carlisle [*Master*: Mr. H. Higginson].
LING: Richard Bertram; 53, Dorothy Road, Lavender Hill, S.W. [Battersea Polytechnic].
MACKAY: William Alexander; 17, Norfolk Road, Seven Kings, Ilford, Essex [*Masters*: Messrs. Niven * & Wigglesworth *].
MACKEY: Samuel Armstrong Hurst; 60, Bewsey Street, Warrington [*Master*: Mr. Albert Warburton *].
MARTIN; Moritz Richard; 61, St. Mary's Grove, Chiswick, W. [*Masters*: Messrs. Bourchier,* Burmester,* & Galsworthy].
MAY: Percy; 266, Upland Road, Dulwich, S.E. [Architectural Association Day School].
MEAD: John R.; Stapenhill, Burton-on-Trent [*Master*: Mr. G. T. Lynam].
MELLOR: Wilfrid Law; 2, Park View, Hopwood Lane, Halifax, Yorks [*Masters*: Messrs. Horsfall & Son].
MESTON: Alexander Clark; 14, Bon Accord Street, Aberdeen, N.B. [*Masters*: Messrs. J.* & J. A. Souttar].
MORANT: Clive Aubrey Lushington; Danesbury House, Burghley Road, St. Andrew's Park, Bristol [*Master*: Mr. H. Dare Bryan *].
MORGAN: Leonard; 2, Belmont Grove, Lee, S.E. [Blackheath School].
MYERS: Legender William; 20, St. Andrew's Street, Cambridge [*Masters*: Messrs. MacAlister* & Tench *].
NAGINGTON: Leonard; 11, Church Road, Walton, Liverpool [*Master*: Mr. Shelmerdine].
NUTTALL: Harold; 216, Waterloo Street, Oldham [*Masters*: Messrs. Heywood & Ogden].
OLDREY: Clarence; 18, Kempston Road, Bedford [*Masters*: Messrs. C. E. Mallows * & Grocock].
OLIVER: Bruce William; Springhaven, Newport, Barnstaple [*Master*: Mr. W. C. Oliver].
OLIVER: William Midgley; 133, Dilston Road, Newcastle-upon-Tyne [*Masters*: Messrs. Whister & Newcombe *].
ORME: Robert Wright; 91, Queen's Road, Oldham [*Master*: Mr. Tom Taylor].
OSBORNE: Frank John; 95, Colmore Row, Birmingham [*Master*: Mr. John P. Osborne *].
OVERTON: William; Friar's Gate, Cheam Road, Sutton, Surrey [St. Edward's School].
PAGET: George Frederick; 14, Bridge Road, Gainsborough.
PEARCE: John; 2, Woodbine Terrace, Exeter [*Master*: Mr. Dobell].
PETT: Harold Milburn; 20, Buxton Road, Brighton [*Master*: Mr. F. T. Cawthorn].
PIRIE: James Alexander; Heathfield Villa, Inverness [*Master*: Mr. John Squair].
POPE: Thomas Campbell; 280, Goldhawk Road, Shepherd's Bush, W. [St. Paul's School].
PRITCHARD: William; Highfield View, Quernmore Road, Lancaster [*Master*: Mr. J. Parkinson].
REINMANN: Charles Latham; Grand Hotel, St. Leonards-on-Sea [*Master*: Mr. Henry Ward *].
REW: Noël Ackroyd; 87, High Street, Great Berkhamsted, Herts [Berkhamsted School].
RICHARDSON: Clifford Kilburn; The Crofts, Horbury, Wakefield [Collegiate School, Wakefield].
ROBERTSON: Norris Bathgate; Roydfield, Uppingham Road, Leicester [*Master*: Mr. A. H. Hind *].
ROGERS: Gerald Guy; 35, Lynette Avenue, Clapham Common, S.W. [*Master*: Mr. Harvey Dyball].
ROWLEDGE: George Henry; 11, May Street, Upper Brook Street, C.-on-M., Manchester [*Master*: Mr. H. E. Stelfox *].
RUDHALL: Percy William Graham; 3, Sussex Square, Brighton [*Master*: Mr. Durward Brown].
RUSSELL: Frederick Gordon; 6, Bruce Grove, N. [*Masters*: Messrs. W. C. Green & A. C. Dickie *].
RUTHEN: Ernest Sidney; 72, Senylun Road, Cardiff [*Master*: Mr. Charles J. Ruthen].
SAMPSON: Arthur Lewis William; Pembroke House, Redhill, Surrey [*Masters*: Messrs. Hoare & Wheeler].
SANDFORD: Horace; Verona, Parrock Street, Gravesend Kent [*Masters*: Messrs. Sills * & Leeds *].
SAXELBYE: Harold Frederick; The Park, Hull [*Master*: Mr. B. S. Jacobs].
SAYER: Clarence Wimble; 45, Choumert Road, Peckham, S.E. [L.C.C. Architects' Department].
SAYER: Harvey Robert; 45, Choumert Road, Peckham, S.E. [Wilson's Grammar School, Camberwell].
SCAMMELL: Thomas Edward; 56, Lower Redland Road, Redland, Bristol [*Master*: Mr. Scammell].
SCOTT: Norman; 3, Eastbourne Terrace, West Hartlepool, Durham [*Master*: Mr. Harry Barnes *].
SHELMERDINE: Thomas Harvey; Riversdale Hall Road, Blundellsands, Liverpool [University College, Liverpool].
SHIRES: Harold Reginald Smith; Old Town Chambers, Plymouth [*Master*: Mr. B. Priestley-Shires *].
SIGISMUND: Gustave George; Fewhurst, Billingshurst, Sussex [*Masters*: Messrs. Wheeler * & Lodge].
SIMONS: Sidney; 26, Bancroft Road, Mile End, E. [Polytechnic, Regent Street].
SLADDIN: Arnold Gladstone; Mount View, Brighouse, Yorks [*Masters*: Messrs. Jackson & Fox].
SLAUGHTER: Albert Frank; Gairloch, Alexandra Road, Reading [*Masters*: Messrs. Millar & Nasmyth].
SMITH: Charles Benjamin; Acacia Villa, North Hill Road, Ipswich [*Masters*: Messrs. Bisshopp & Cautley *].
SOLOMON: Digby Lewis; 21, Hamilton Terrace, N.W. [*Master*: Mr. Lewis Solomon *].
STANLEY: Clement Alfred; 5, White House Terrace, Western Road, Tring [*Master*: Mr. F. Foster].
STELFOX: George Henry; Park View, Plymouth Grove, Longsight, Manchester [*Master*: Mr. Henry E. Stelfox *].
STEWART: Douglas William; 174, West Green Road, South Tottenham, N. [*Master*: Mr. A. S. Tayler *].
SUNDERLAND: Amos; 5, Haincliffe Road, Ingrow, Keighley, Yorks [*Master*: Mr. W. S. Braithwaite].
SUTTON: Basil Hope; Lower Basildon, nr. Reading, Berks [*Master*; Mr. W. H. Ward *].

SWASH: Frank Stanley; Ingleside, Fields Park, Newport, Mon. [*Masters*: Messrs. Swash & Bain *].

TIPTON: William Winnall; Hadley, Wellington, Salop [*Master*: Mr. C. R. Dalgleish].

TRAVERS: Howard Martin Otho; 4, The Grove, Chapel Fields, Norwich [Tonbridge School].

WADE: Charles Paget; Elmsley, Yoxford, Suffolk [*Master*: Mr. E. F. Bisshopp].

WALKER: Francis William; Portland House, Gravesend [Polytechnic, Regent Street].

WARD: Henry Dorrington; Poynings, Park Road, Hastings [*Master*: Mr. Henry Ward *].

WARE: Vivian; Roselynn, Gerald Road, Bournemouth [*Master*: Mr. P. D. Jennings].

WARLOW: Herbert Gordon; Kenwood House, Kenwood Park Road, Sharrow, Sheffield [*Master*: Mr. J. R. Wigfull *].

WATSON: Frederick James; 1, Clare Road, Field Road, Forest Gate, Essex [*Master*: Mr. E. Keynes Purchase].

WATT: John Douglas Dickson; Victoria Villa, Falkirk, N.B. [*Master*: Mr. Strang].

WEIGHTMANN: Fred Norman; 65, Manor House Road, Newcastle-upon-Tyne [*Masters*: Messrs. Oliver, Leeson & Wood].

WILBY: Albert; 14, Wilby Street, Barnsley [*Master*: Mr. William H. Thorp *].

WHITTAKER: Oscar; Morelands, Heaton, Bolton [Owen's College, Manchester].

WILKINSON: Arthur Wilfrid; 14, Front Street, Tynemouth [*Masters*: Messrs. W. Hope & J. C. Maxwell *].

WILLS: John Bertram; 15, Berkeley Square, Clifton, Bristol [*Master*; Mr. Frank W. Wills *].

WILLS: Thomas Thornton; Holly Bank, Portishead, Somerset [*Master*: Mr. Frank Wills *].

WILSON: John; 8, Albyn Place, Edinburgh [*Masters*: Messrs. Peddie & Washington Browne, R.S.A.]

WILSON: John Archibald; 14, Balmoral Crescent, Crosshill, Glasgow [*Master*: Mr. John Bennie Wilson *].

WITHERS: Clavel Charles Alison Hicks; 11, Abbey Road, St. John's Wood, N.W. [Dover College].

WITTET: George; 39, Comely Bank Avenue, Edinburgh [*Master*: Mr. George Washington Browne, R.S.A.].

WOOD: Ernest Marshall; The Crescent, Hipperholme, Halifax, Yorks [*Masters*: Mr. J. F. Walsh & Graham Nicholas].

WOOD: Evelyn Victor; 108, Windsor Road, Forest Gate, Essex [Polytechnic, Regent Street, W.].

WOOD: William Harold; Hillcrest, Wolstanton, Stoke-on-Trent [*Master*: Mr. J. Hutchings *].

WOODS: Frank; Shoppenhangers, Maidenhead [*Masters*: Messrs. Davy & Salter *].

WOOLFALL: Herbert Thomas; 146, Vauxhall Terrace, Witton, Blackburn, Lancs. [*Masters*: Messrs. Briggs * & Wolstenholme *].

WORMALD: Harry; 28, St. Luke's Road, Beeston Hill, Leeds [Mr. W. S. Braithwaite].

WRIGHT; Wilfred; Anerley, New Road, Brading, Isle of Wight [*Master*: Mr. E. C. Cooper].

WYATT: Henry James; 41, Via Boschetto, Rabato, Malta.

The asterisk (*) denotes members of the Institute.

Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the undermentioned non-Metropolitan centres on the 10th, 11th, 12th, and 13th ult. Ninety-eight candidates were examined, with the following results:—

	Passed	Relegated	Total
London	36	34	70
Bristol	6	2	8
Glasgow	1	2	3
Leeds	6	3	9
Manchester	1	4	5
Newcastle	1	2	3
	51	47	98

The passed candidates, who have been registered as Students, are as follows, the names being given in order of merit as placed by the Board of Examiners:—

ASH: Horace James [*Probationer* 1893]; Wood Street, Willenhall, Staffordshire [*Master*: The late Mr. Benjamin Baker].

BOSSOM: Alfred Charles [*Probationer* 1898]; Scotswood, 489, Caledonian Road, Holloway [Architect's Department, London County Council].

STEWARDSON: Robert Ernest [*Probationer* 1900]; 32, Almeric Road, Clapham Junction, S.W. [*Master*: Mr. George Hornblower *].

FOURACRE: John Leighton [*Probationer* 1898]; 16, Portland Square, Plymouth [*Master*: Mr. H. J. Snell].

MARSHALL: Hugh John Cole [*Probationer* 1900]; 119, Grosvenor Road, S.W. [*Master*: Mr. R. Langton Cole *].

FARRAR: George Arthur [*Probationer* 1900]; Springdale, Huddersfield [*Masters*: Messrs. J. H. Hanson & John Haigh].

JOHNSON: Frank Garfield [*Probationer* 1899]; Llwyn On, Risca, nr. Newport, Mon. [*Master*: Mr. J. Cook Rees].

BRAITHWAITE: James Ellis [*Probationer* 1900]; May House, St. Mark's Avenue, Leeds [*Master*: Mr. W. S. Braithwaite].

ALLEN: Ernest Gladstone [*Probationer* 1900]; 10, Morland Road, Croydon [*Master*: Mr. Christopher M. Shiner *].

BENJAMIN: Ashley Florian [*Probationer* 1901]; 24, Norfolk Square, Hyde Park, W. [*Master*: Mr. M. E. Collins].

MITCHELL: Daniel [*Probationer* 1901]; 3, Grosvenor Park, S.E. [*Masters*: Messrs. Niven * & Wigglesworth *].

HODGES: William Ashford [*Probationer* 1901]; Cherrywood Lodge, Wimbledon Park [*Master*: Mr. H. Phelps Drew].

HAYWARD: Frank Woodbury [*Probationer* 1899]; The Parade, Minehead, Somerset [*Master*: Mr. F. W. Roberts].

WALKER: John Wilson [*Probationer* 1897]; Portlethen, Aberdeen, N.B. [*Master*: Mr. R. G. Wilson].

RAMSEY: Stanley Churchill [*Probationer* 1899]; Oak Lodge, Benhill Wood Road, Sutton, Surrey [King's College, London].

WATSON: William Ernest [*Probationer* 1900]; 28, Hazlitt Road, West Kensington, W. [*Master*: Mr. W. D. Caröe *].

POTTS: Miss Bessie [*Probationer* 1899]; 51, Parson's Street, Banbury, Oxon [Banbury Municipal School of Art].

WESTWOOD: Percy James [*Probationer* 1898]; 26, High Street, Grays, Essex [*Master*: Mr. C. M. Shiner].

CULLEY: Norman [*Probationer* 1901]; 128, Bradford Road, Huddersfield, Yorks [*Master*: Mr. W. Cooper].

GILL: Charles Lovett [*Probationer* 1901]; 17, Albert Street, Regent's Park, N.W. [*Master*: Mr. Frank T. Verity *].

SAWDAY: Tom Trevor [*Probationer* 1900]; Briarwood, Springfield Road, Leicester [*Master*: Mr. A. E. Sawday *].

POWYS: Albert Reginald [*Probationer* 1900]; Montacute Vicarage, Somerset [*Masters*: Messrs. C. & C. B. Benson].
LOVEDAY: William Taylor [*Probationer* 1897]; Williamscote, Banbury, Oxon. [*Master*: Mr. W. E. Mills *].
THORPE: Fred [*Probationer* 1897]; 2, Brierley Street, Hathershaw, Oldham, Lancs [*Master*: Mr. Thomas Taylor].
BOWES: Harold MacGowan [*Probationer* 1899]; 4, Falmouth Road, S.E. [*Masters*: Messrs. Read * & MacDonald *].
YATES: Reginald William [*Probationer* 1900]; 229, Bradford Road North, Huddersfield [*Master*: Mr. John E. Lunn].
BROOKER: Albert Edward [*Probationer* 1898]; Durlstone, Brockley Park, Forest Hill, S.E. [*Master*: Mr. J. W. Brooker *].
MURRELL; Harold Franklyn [*Probationer* 1900]; 7, Thurlow Park Road, West Dulwich, S.E. [*Master*: Professor Beresford Pite *].
SOUSTER: Ernest George William [*Probationer* 1899]; 24, East Park Parade, Northampton [*Master*: Mr. William Hull].
GOTCH: Laurence Mursell [*Probationer* 1899]; Bryher, Kettering [*Masters*: Messrs. Gotch * & Saunders].
CLAYPOLE: Edward Ernest Blunt [*Probationer* 1898]; 2, Benedict Road, Brixton, S.W. [*Master*: Mr. Aston Webb, A.R.A.*].
TWEEDIE: James Irving [*Probationer* 1900]; 43, Lady Street, Annan, N.B. [*Master*: Mr. Frank J. C. Carruthers].
ROBINSON: William Walter, jun. [*Probationer* 1893]; 10, King Street, Hereford [*Master*: Mr. W. W. Robinson].
BAX: Edwin George Goodson [*Probationer* 1897]; 45, Rosenthal Road, Catford, S.E. [*Master*: Mr. Thos. Dinwiddy *].
BRIGGS: Martin Shaw [*Probationer* 1899]; Wharfebank, Otley [*Masters*: Messrs. Bedford * & Kitson].
CARTER: William Alfred Thomas [*Probationer* 1898]; 66, Richmond Road, Bayswater, W. [Architect's Department, London County Council].
CLIFFORD: Herbert Edwin [*Probationer* 1894]; Tusmore Lodge, Watford, Herts [*Master*: Mr. A. G. Bond].
DACOMBE: Reginald Stainbank [*Probationer* 1899]; Roseneath, Polygon, Southampton [*Masters*: Messrs. Jurd & Sanders].
DAVISON: William Rupert [*Probationer* 1899]; Kingshaw, Woldingham, Surrey [*Master*: Mr. W. Wallis Baldwin].
FORREST: George Topham [*Probationer* 1893]; 1, Cyprus Street, Wakefield [*Master*: Mr. J. Vickers Edwards].
HAYNES: Eustace Lisle [*Probationer* 1899]; The Grange, St. Albans, Herts [*Master*: Mr. Wm. Woodward *].
HOLMAN: Arthur Rowland [*Probationer* 1900]; 27, Westbourne Road, Penarth [*Masters*: Messrs. Jones, Richards & Budgen *].
HUGGUP: Robert, jun. [*Probationer* 1898]; Hedgeley, Glanton, R.S.O., Northumberland [*Master*: Mr. Geo. Reavell, jun.*].
MYERS: Norman Toller [*Probationer* 1899]; Grantchester, Clarendon Road, Watford [*Master*: Mr. George A. Lansdown].
PILLING: Percy Cunliffe [*Probationer* 1899]; c/o Sir Wm. Emerson, 8, The Sanctuary, Westminster, S.W. [*Master*: Sir Wm. Emerson *].
RICHARDS: Thomas Edgar [*Probationer* 1900]; Tynewydd, Barry [*Masters*: Messrs. Jones, Richards & Budgen *].
ROBINSON: Francis James [*Probationer* 1898]; Nethern House, Upper Weston, Bath [*Master*: Mr. Mowbray A. Green *].
SLAUGHTER: Ernest William [*Probationer* 1893]; Briardene, Springfield Road, Windsor [*Masters*: Messrs. Edgington & Summerbell].
SMALLMAN: Henry Richard George Strong [*Probationer* 1900; Carlton House, Herne Hill, S.E. [*Masters*: Messrs. Gordon * & Gunton *].
SPRULES: Francis Adams [*Probationer* 1899]; Trelawne, Sutton, Surrey [*Master*: Mr. R. Fabian Russell *].
STOCKDALE: Frederick George [*Probationer* 1898]; 76, Durham Road, East Finchley, N. [*Masters*: Messrs. Graeme, Watt & Tulloch *].

The asterisk (*) denotes members of the Institute.

Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 11th to the 18th inst.* Of the 73 candidates † examined, 46 passed, and the remaining 27 were relegated to their studies. The successful candidates are as follows:—

† ALLSOP: George Wilfred [*Special Examination*]; Deloraine, Balfour Road, Parnell, Auckland, New Zealand.
BEAUMONT: Chevalier Worby [*Probationer* 1895, *Student* 1899]; 100, Palace Road, Tulse Hill, S.W.
BELFRAGE: James Herbert [*Probationer* 1897, *Student* 1901]; 9, Trafalgar Square, Chelsea, S.W.
BERRILL: Ralph [*Probationer* 1897, *Student* 1899]; 33, Royal Avenue, Sloane Square, S.W.
† BEVAN: William [*Special Examination*]; 12, Buckingham Street, Strand, W.C.
BISHOP: Harold Courtenay [*Probationer* 1896, *Student* 1898]; 41, Clapham Common (North Side), S.W.
BROWN: Edwin Dace [*Probationer* 1898, *Student* 1899]; 58, Rathfern Road, Catford, S.E.
CHAMBERLAIN: Reginald Percy [*Probationer* 1899, *Student* 1900]; 175, Hinckley Road, Leicester.
CHAPMAN: Henry, jun. [*Probationer* 1896, *Student* 1899]; 43, Callcott Road, Brondesbury, N.W.
CONDER: Alfred Rowland [*Probationer* 1898, *Student* 1899]; Orwell, 40, Coolhurst Road, Crouch End, N.
ELMS: Edward Furness Marson [*Probationer* 1897, *Student* 1901]; 16, Buckingham Palace Road, Buckingham Gate, S.W.
† FARRAR: Richard Fielding [*Special Examination*], 38, Rosebery Road, Brixton Hill, S.W.
GIBBONS: John Harold [*Probationer* 1895, *Student* 1898]; 25, Cross Street, Manchester.
GIBBS: Thomas Harry [*Probationer* 1895, *Student* 1899]; 39, Poland Street, Oxford Street, W.
GREGSON: Thomas Sedgwick [*Probationer* 1895, *Student* 1897]; 1, Ulleswater Road, West Norwood, S.E.
GREIG: Baxter [*Probationer* 1897, *Student* 1901]; Fifeshire, 183, Dulwich Grove, Dulwich, S.E.
GROOM: Percy John [*Probationer* 1893, *Student* 1896]; 3, Broad Street Buildings, E.C.
HAYWOOD: Percival Joseph [*Probationer* 1895, *Student* 1899]; 231, Marylebone Road, N.W.
HOBDAY: William Herbert [*Probationer* 1898, *Student* 1900]; 19, Kyverdale Road, Stoke Newington, N.

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* These Examinations were held a fortnight later than usual on account of the Coronation arrangements.

† Eight of these candidates were entered for the Special Examination, which is for architects in practice not less than twenty-five years of age, and chief assistants over thirty. Such candidates are exempted by special resolution of the Council from the Preliminary and Intermediate Examinations, and from submitting Testimonies of Study. Four of these special candidates passed; a † is prefixed to their names in the above list.

HOLDEN : Orton [*Probationer* 1893, *Student* 1896] ; 57, Roundhill Road, Kettering.
HOLDER : Archibald Lawrence [*Probationer* 1898, *Student* 1900] ; 5, Bloomsbury Square, W.C.
JARDINE : Henry Stringer [*Probationer* 1895, *Student* 1897] ; 63, King's Road, Peckham, S.E.
KENT : Ivan Means [*Probationer* 1895, *Student* 1899] ; Boynton, Hailsham, Sussex.
† KIRKBY : Reginald Guy [*Special Examination*] ; 37, Fawcett Street, Sunderland.
MOGER : Horace [*Probationer* 1894, *Student* 1898] ; 9, Shardcroft Avenue, Herne Hill, S.E.
NASH : William James [*Probationer* 1898, *Student* 1899] ; Les Rosiers, Holdenhurst Road, Bournemouth.
NEWCOMBE : Charles Frederick [*Probationer* 1892, *Student* 1897] ; Erlsmead, Gosforth, Newcastle.
NEWMAN : Percival Corney [*Probationer* 1892, *Student* 1894] ; 4, Trefoil Road, Wandsworth Common, S.W.
OMAN : William Campbell [*Probationer* 1895, *Student* 1899] ; 26, Tollington Place, Finsbury Park, N.
PAYNE : Edwin Osman [*Probationer* 1898, *Student* 1900] 23, Russell Road, Kensington, W.
PAYNE : Wilfred Stonehouse [*Probationer* 1898, *Student* 1900] ; 23, Russell Road, Kensington, W.
ROBERTS : Richard McMinnies [*Probationer* 1897, *Student* 1899] ; Rock Villas, Latchford, Warrington.
ROBERTSON : Alexander Robert [*Probationer* 1898, *Student* 1899] ; 7, Aden Grove, Green Lanes, N.
ROSS : James MacLaren [*Probationer* 1896, *Student* 1898] ; 51, Mornington Road, Gloucester Gate, N.W.
SIMM : Ernest [*Probationer* 1893, *Student* 1896] ; Lower Abbott House, Osbaldestone, near Blackburn, Lancs.
SMITH : Spencer [*Probationer* 1896, *Student* 1898] ; 29, Lawson Road, Sheffield.
SWARBRICK : John [*Probationer* 1897, *Student* 1900] ; 30. St. Ann Street, Manchester.
WALKER : George [*Probationer* 1897, *Student* 1898] ; 49, Gilbert Road, Kennington, S.E.
WARD : Charles Frederick [*Probationer* 1898, *Student* 1900] ; 6, Cathcart Hill, Highgate, N.
WARD : Lloyd Foster [*Probationer* 1895, *Student* 1898] ; 41, Trafalgar Road, Moseley, Birmingham.
WHEELER : Christopher William Frederick [*Probationer* 1895, *Student* 1899] ; Sussex Lodge, Horsham.
WHIPP : Thomas William [*Probationer* 1900, *Student* 1900] ; 156, Falsgrave Road, Scarborough.
WILSON : Henry Armstrong [*Probationer* 1896, *Student* 1898] ; 20, Broughton Road, South Shields.
WILSON : Robert Gordon, jun. [*Probationer* 1897, *Student* 1900] ; 12, Belgrave Terrace, Aberdeen, N.B.
WOOD : Douglas [*Probationer* 1898, *Student* 1899] ; 5, Westbourne Avenue, Hull.
WRIGLEY : Willie [*Probationer* 1896, *Student* 1898] ; 6, Westgate, Wakefield.

The number of failures in each subject of the Final Examination was as follows :—

I.	Design	23
II.	Mouldings and Ornament	18
III.	Building Materials	16
IV.	Principles of Hygiene	10
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The R.I.B.A. Examinations in the Colonies.

Arrangements were made for the holding of the Special Examination, qualifying for candidature as *Associate R.I.B.A.*, in Australia (at Melbourne) and in Canada (at Montreal), simultaneously with the Final and Special in London. The results will be announced in a future issue.

The Fall of the Campanile at Venice.

The following letter, addressed to the Italian Ambassador in London, was sent from the Institute on receipt of the news of the disaster to the Campanile of San Marco, Venice :—

15th July 1902.

YOUR EXCELLENCY,—The news we have received this morning of the fall of the Campanile of San Marco in Venice has filled us with dismay, and, on behalf of the Royal Institute of British Architects, I would respectfully ask you to convey to the Italian Government an expression of our profound sympathy and of our sense of the loss sustained not only by Italy herself, but by the whole of the civilised world.

I have the honour to remain, Your Excellency,
Your most obedient servant,
ASTON WEBB, *President.*

His Excellency replied as follows :—

Ambasciata d'Italia, 20, *Grosvenor Square, W.*
16th July 1902.

ASTON WEBB, ESQ., *A.R.A.*, *President*
Royal Institute of British Architects.

SIR,—I have received the letter that you have been so good as to address to me, on behalf of the Royal Institute of British Architects, on the occasion of the disaster to the Campanile of San Marco. The sympathy expressed by you for such a loss which has befallen Italy and the whole art world will be conveyed by me to my Government, on whose behalf I beg to say how gratefully this demonstration will be received.

I have the honour to remain, Sir,
Your obedient servant,
A. PANSA, *Italian Ambassador.*

The thanks of the Institute will be warmly accorded to Signor Beltrami, the distinguished Italian architect who has contributed so much to our knowledge of the architectural records of his country, for the interesting article on the fallen Campanile printed on foregoing pages. The Paper is the author's prompt and generous response to a telegram from the Institute asking for a few notes on the disaster for the present issue of the JOURNAL.

The New Liverpool Cathedral.

The portfolios of drawings submitted by the architects who have taken part in the preliminary competition for the Liverpool Cathedral have been on view this week at the Walker Art Gallery, Liverpool. It will be remembered that these drawings are not submitted as competitive designs for the cathedral, but are sent in merely as evidence of their authors' capacity. Mr. Norman Shaw, R.A., and Mr. G. F. Bodley, R.A., are to inspect and report on the collection, and to select six of the authors to prepare designs in competition for the new cathedral.

The Times of the 22nd inst. published the following list of the architects who have sent in portfolios of drawings for the preliminary competition: R. A. Briggs, René Buyck, Fred. H. Dudley, E. Goldie, J. Dale, Albert C. Capronnier, A. W. Crook, Geo. Simmonds, Geo. Taylor, F. R. Kempson, Hippolyte J. Blanc, De Mathelin, Basil Champneys, W. J. Medcalf, John Bloore, jun., R. W. Collier, Austin and Paley, W. D. Caröe, W. J. H. Leverton, A. Greothaert, F. Billerey, A. Colpoys Wood, Sir Thomas Drew, J. Brooks, Son, and Godsell, Robert W. Gibson, J. Robertson, Walter le Riele, E. Dobbeleers, C. H. Miletsam, F. M. Simpson, Alph. Gosset, — Grayson, C. Demaeght, G. P. D. Saul, J. Oldrid Scott, C. A. Nicholson, H. A. Prothero, W. H. Jewitt, J. Coates Carter, E. A. Heffer, A. H. Skipworth, F. H. and J. Sparrow, J. A. Wilson, Chas. L. Bell, Cram, Goodhue, and Ferguson, Edouard Ramaekers, B. Ingelow, Colson, Farrer, and Nisbett, Sir Wm. Emerson, G. G. Scott, C. V. Johnson, G. H. Fellowes Prynne, Gerald C. Horsley, F. Walley, "Burgos," E. P. Warren, W. Woodward, Leonard Stokes, J. F. Doyle, G. and L. Steane, S. O. Herbert, G. Walesby Davis, H. C. Corlette, J. J. Creswell, J. Jeffrey, Beresford Pite, J. Burnett and Son, — M'Kenzie, C. Spooner, Murray and Murray, H. Beecroft Downs, — Honeyman, Eastwood and Greenslade, Reed, Smart, and Tappin, P. A. Robson, M. Metdepinninghen, W. H. Bidlake, W. Mackay, C. J. Anderson, Hy. J. Price, T. Th. J. Cuyper, A. E. Street, F. E. Butler, F. Todd, Jas. H. Cook, C. E. Powell, W. C. Bishop, M. Stark, H. B. Carre, B. M. Ward, W. R. Cleave, H. K. Bromhead, W. Boswell, G. H. Shackle, Max Sainsaulieu, Temple Moore, A. D. Sharp, H. Wilson, Reilly and Peach, W. F. Tapper, Goodwin S. Packer, J. Atwood Slater.

With reference to the above list, *The Times* of the 24th inst. has the following letter from Sir Wm. Emerson:—

Sir,—My attention has been drawn to the list of competitors in *The Times* of yesterday for the above cathedral, amongst which my name appears.

I beg to state that, if my design for this cathedral—submitted in the first competition some years ago—has been laid before the assessors in this second competition it is by an act of the Committee unauthorised by me, and in opposition to my expressed desire.

The Committee asked me a year ago to send them my drawings, which were placed first in the previous competition. This I did. They then asked me to compete a second time, as the site was to be changed. This I declined to do, as I felt it was about as fair as to ask the winner of a race to compete a second time because the Committee chose to change the shape of the cup.

A month ago Sir William Forwood, the Chairman of the Committee, asked me to allow them to retain the drawings for a while, as the Committee might wish to refer to them, though he stated they did not propose to place them with those sent in for competition, as he understood I did not intend competing again. To this I replied:—

> That, if they were of any use to the Committee, they might do so, but that I did not think it fair to compare my design, made on certain lines to meet extraordinary difficulties of surroundings and limitations of site, with other drawings prepared for a different and freer site, and without such limitations; and, as to competing again, I felt that, if architects are to be asked to expend a year's labour and money on such work, and then, when the most competent assessor of the time has placed a design first, the author of that design is to be forced to compete again on the ground that a certain time has elapsed, and the site been changed, I for one do not care to be a party to such proceedings.
>
> Had I been asked to prepare a fresh sketch and failed to satisfy the Committee, a new competition would have been an entirely different matter; but I felt I should have had the first chance offered me.

I say this, not only from personal feeling, but in the interest of the profession at large, to whom proper dealing in competitions, so long as architects have to take part in them, is a matter of vital importance.—I am, Sir, yours faithfully,

Wm. Emerson.

The Lightning Research Committee.

The Lightning Research Committee, organised by the R.I.B.A. and the Surveyors' Institution, in a recent communication to observers state that they are now in possession of a large number of first-hand reports on cases of damage to buildings from lightning-stroke. As regards the general character of the injuries to which *non*-protected buildings are subject from this cause, the Committee consider that the information already collected furnishes ample material for deliberation, and that it is unnecessary further to multiply observations as to *non*-protected buildings.

Data to hand, however, respecting "protected" buildings which have been struck are few, and generally meagre and unsatisfactory; and as the object of the Committee is to improve existing methods of protection they propose for the future to confine their investigations to buildings which have been struck in spite of being provided with lightning conductors.

In order to determine the efficiency or otherwise of the conductor the Committee are of opinion that it is necessary to scrutinise minutely the actual conditions of the building affected. Observers are therefore requested to ascertain first whether the building struck is provided with a conductor, and if this be the case the structure should be carefully examined at once on the lines suggested below, and a photograph taken before any repairs, temporary or otherwise, are effected.*

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* The Committee wish it to be understood that they are prepared to defray actual out-of-pocket expenses, and also a moderate charge for the photographer's services, provided that complete details of the disaster be furnished within a few days after the occurrence, and that an account of the expenses incurred be sent in with the observer's report.

Details additional to those indicated in the original form of questions are requisite to the more limited inquiry now contemplated. A general description should be given of the surroundings, especially of elevated buildings in the vicinity, and photographs should be taken in cases of importance; and if these elevated buildings are provided with lightning conductors their positions and heights should be given.

The Committee suggest that the following points, drawn up for the Committee by Sir Oliver Lodge, should, *as far as possible*, be attended to by observers in making records of damage :

1. Any signs or indications of where the flash appears to have first struck, and an account of the damage done.

2. A specification and drawing of the metalwork of the building, paying special attention to metal of every kind which comes anywhere in the neighbourhood of the conductor, whether roof guttering, lead covering, rain-water spouts, sewer ventilators, telephone wires, bell wires, gas pipes, ornamental railings, &c., &c., carefully ascertaining whether any of these were either purposely or accidentally connected with the lightning conductor, and, if not, what their nearest distance was from it.

In the drawing all metals may be indicated in *red*, no matter of what kind they may be; the hypothetical path of the lightning, as appears to the observer most probable, may be sketched in *blue*, remembering that bifurcation of path is not unlikely. Places of damage may be indicated by a blue swelling or patch, the size of the patch giving a rough idea of the relative damage, and an arrow being employed, when necessary, to call attention to any small patches liable to be overlooked. The patches may be numbered, and the nature of the damage at each place stated in the description. Any place where fire broke out is to be specially attended to.

3. The nature and condition of the conductor, especially with reference to its continuity, its earth, and its elevation; also how fixed, and, if carried horizontally, its length as compared with the vertical height of its terminal above the ground; also note whether it made any sharp curves or loops round projections of the building, or took an indirect course. Cases of damage where there have been more than one or several conductors are specially important.

In the case of church steeples, the wind vane should receive special attention, and the mode in which its rod terminates in the steeple should be ascertained.

In the case of chimneys, any internal metal flue should be carefully specified. Likewise any indication that the flash took the column of hot air in preference to the conductor should be recorded; also whether the conductor was bent or curved over the mouth of the chimney or not.

In any case of importance the earth of the conductor should be specially examined, being, if possible, dug down to for this purpose; and a complete specification of the nature of the earth, the nature of the soil, and of any metal ramifications as well as of moisture in its neighbourhood, should be made.

Any signs that the discharge has entered the earth should be recorded; and if the conductor is at any point damaged or otherwise affected, this should be specified, and, when interesting, a sample of the damaged portion should be sent. If the conductor has recently been examined and tested, or otherwise reported on, the fact should be stated.

LEGAL.

London Building Act: "Properly Bonded" Wall.

BLACKBOURN *v.* HUNTER.

At the South-Western Police Court on July 7, Mr. Rose was called upon to consider the provisions of the London Building Act, 1894, as to the thickness of cross-walls. Mr. H. Blackbourn, a builder, of St. Anne's Gate, S.W., proposed to erect three shops in Norwood, and the district surveyor (Mr. Percy Hunter) objected to the plans on the ground that the builder designed the cross-walls (section 5, subsection 17) which divided the shop proper from the dwelling-rooms above of a thickness of only 4½ inches. Mr. Blackbourn thereupon appealed to the magistrate under section 150 of the Building Act. Mr. Hunter argued, in support of his objection, that the Act prescribed that all walls should be "properly bonded" (schedule 1, prel. par. 2), and that they should be constructed of fire-resisting material; that bricks which were only 4½ inches thick could not be properly bonded, because there was no room for cross-bonding or, in trade parlance, "headers and stretchers"; and that a 4½-inch wall would buckle with heat very easily, and so would, in the case of an outbreak of fire, render escape by the staircase almost impossible. The surveyor added that the clause in the Act relating to the thickness of walls was especially inserted as the result of a fatal fire at a shop close to the Court, in which, through defective lack of means of egress, some unfortunate girls lost their lives; and he urged that, in view of the recent terrible fire calamity in the City, this clause of the Act should be rigidly enforced. The appellant denied that the Act prescribed any particular thickness. He knew of walls in the Strand which were under four inches thick, and were constructed of iron plates and concrete; and he argued further that by the decision in the case of *Carritt* v. *Godson* [JOURNAL R.I.B.A., Vol. VI. 1899, p. 460], a building which comprised a shop and living-rooms for the occupier of the shop was exempted from the provisions relating to the construction of walls. The magistrate said he accepted the weighty opinion of the surveyor as to the actual construction of the walls; and he therefore held as a fact that a brick wall of only 4½ inches in thickness could not be said to be a "properly bonded" wall. The point of law, however, which the appellant had raised was difficult and doubtful; and while he decided that the cited case of *Carritt* v. *Godson*, which referred to a beer-house, did not apply in this case, he would be willing, if required, to state a case for the consideration of a superior Court. He dismissed the appeal without costs.

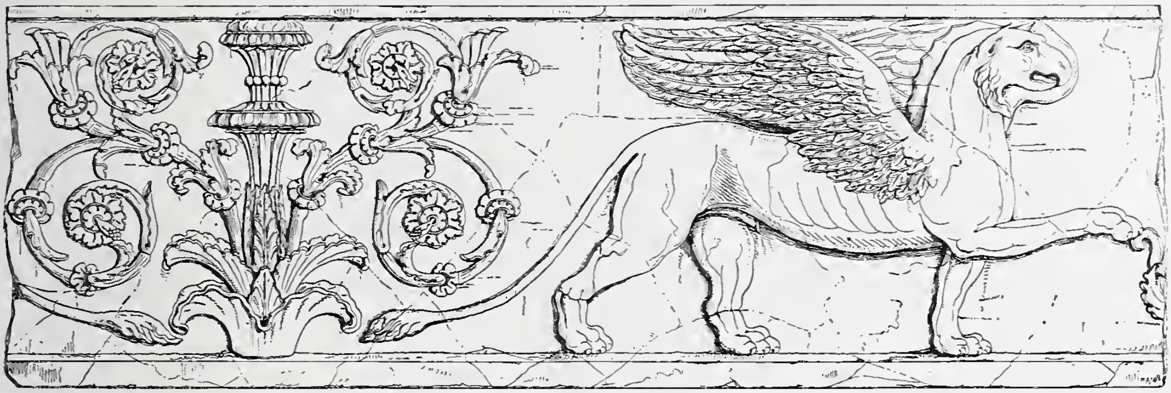

Fig. 1.—Part of Frieze, Temple of Antoninus and Faustina, Rome.

THE LEARNING OF ARCHITECTURE.—V.

ROYAL ACADEMY LECTURES, 1902.

By Professor AITCHISON, R.A., *Past President, Royal Gold Medallist.*

I THINK I have told you the main things that ought to be learned by an architect, that is, by one who at least has been gifted with a passion for creating architecture. A man who loves any fine art stands some chance of having natural capacities for it, and if he be an industrious and painstaking man he is likely to succeed. I may mention William Etty, the Royal Academician, who was so celebrated for his colour in painting flesh. He loved painting and got in as a student at the Royal Academy, tried for every medal, and at last was quite surprised to find he had obtained the silver one. But the old studentship being for ten years, and he having had his studentship enlarged, the medal could not be given to him. He was an indefatigable student, but was slow in mastering the elements, and one of his fellow-students told me, after Etty had begun to exhibit, his contemporaries often said of his pictures, "That looks like Etty's, but it is too good."

It is useful for an architect to know perspective thoroughly, not only to show his employers how a building will look, but because it is important for the architect himself to know how it will look, both from the main point of view and from other points. It is said of Scamozzi that many of his buildings were not at right angles to the streets, and that he always made perspectives to ascertain what variations were wanted to make his building compose well from the oblique point of view. It is true that perspective was not thoroughly mastered till Brook Taylor, who was born in 1685 and died in 1731, published his book of *The New Principles of Linear Perspective* in 1715; but something of perspective was known even to the artists who worked at Pompeii. Sebastian Serlio in his second book gives a treatise on perspective. I know not in what year it was published, but his third book was published in 1544; and in the French version of Vitruvius, of 1547, by Jan Martin, there are some remarks addressed to the studious in architecture by Jean Goujon, the sculptor, in which he points out the advantages of a knowledge of perspective. For instance, he says that Vitruvius and other authors both ancient and modern, confirm it, that among the other sciences wanted to decorate architecture, or the art of building well, geometry and perspective are the two principal, and that no one is worthy to be esteemed an architect if he be not beforehand well instructed in those two. For instance, Raffaele d'Urbino (who was perfect in the art of painting), A. Mantegna, not inferior in his time, Michelangelo, Antonio da San Gallo, Bramante, and enough of other excellent men, would never undertake to conduct any work of architecture without first understanding those two sciences, and he winds up by saying, "but he who would profit and put his hand to the work must not be ignorant of perspective, else he will not make a good thing, except by accident and not by art." (Jean Goujon's cut in Jan Martin's *Vitruvius* is here reproduced to a diminished scale, fig. 2.) Jean Goujon (1515–1572) perished in the Massacre of St. Bartholomew, 1572. Baldassare Peruzzi, who was born in 1481 and died in 1537, was celebrated for his knowledge of perspective, and later Vignola (1507–1573) published a treatise on perspective, and is said to have put in perspective the architectural backgrounds at Fontainebleau for Primaticcio.

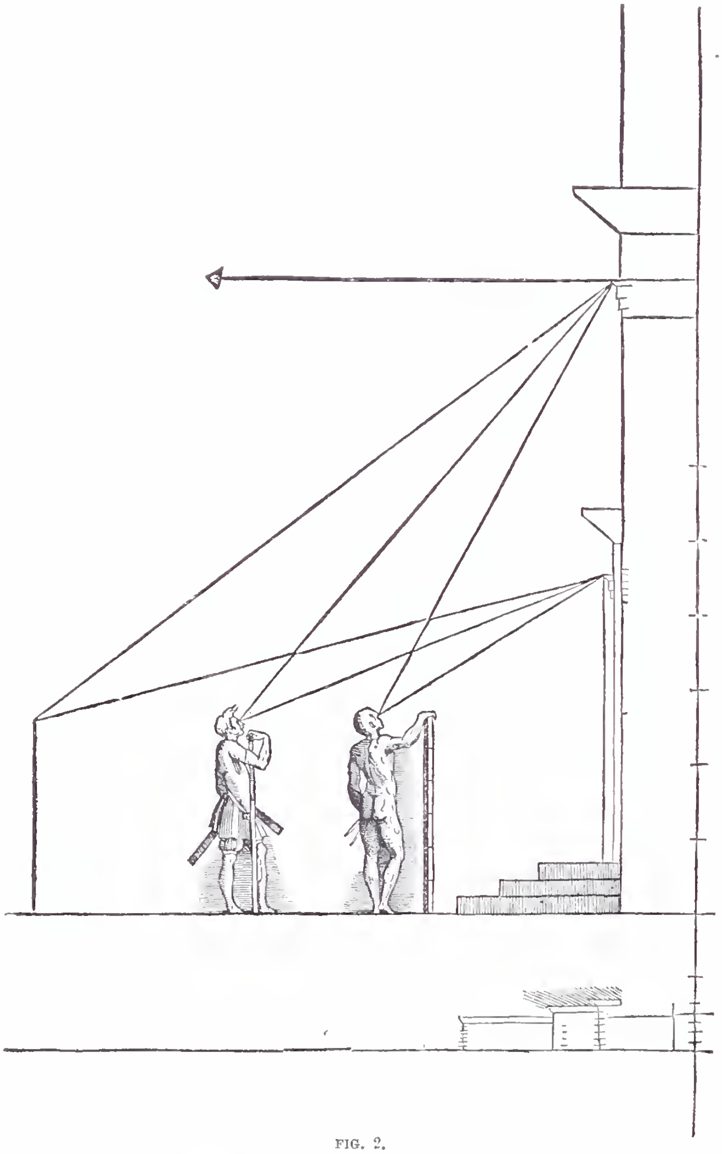

FIG. 2.

From *Architecture, ou Art de bien bastir, de Marc Vitruve Pollion*, p. 39. par Jan Martin. [Fo. Paris, 1547.]

The most important thing for an architect is to learn how to construct, after that how to plan, and then to excite the proper emotions by the building he has erected. To acquire the vast amount of knowledge that is needed requires extremely hard work and perseverance; some people even go further than I have done and believe that excellence in every fine art may be acquired by hard work and perseverance. It was a favourite maxim of the men of the last century that nothing that we call genius exists, that genius is hard work, and that if any occupation is pursued with that pertinacity with which a lady is wooed, in season and out of season, success is certain. Some celebrity's saying is in most persons' mouths that "genius is the art of taking trouble." The man of genius knows that he has taken much trouble; but he can only know that he has the unique gift of genius by seeing that he has surpassed all his competitors, especially in invention. It is more flattering to a man's vanity to believe his success was owing to industry than to a gift that was born in him. I do not think the idea that "genius is the art of taking trouble" is the true one, but that genius is a peculiar faculty of the mind, for else I think we should have had many Shakespeares and Newtons if mere strenuous industry would have conferred those transcendent faculties, and though excessive assiduity is not common it is not by any means so uncommon as genius. In reading M. Zola's *Work* I met with a long panegyric on work by a sickly and elderly philosopher. He says :—

"'Work ! ah work ! to that I owe having lived. You see what a poor feeble creature I am—I recollect that my mother was obliged to wrap me up in blankets on windy days. She it was, however, who set me to work, as a certain system of producing good health. She did not condemn me to crushing studies, real prisons where they torture the intellect in formation. She gave me the habit of regular labour, constantly changing the subject in hand, and hence making the labour attractive. It is thus that I learned to work, as one learns to breathe or to walk. Work has become a function of my being, the necessary play of my members and my organs, the end and aim of my life. I have lived because I have worked ; a balance has been struck between me and the world—I give to it in work what it brings to me in sensation, and I believe that this well-regulated exchange is the foundation of all health, a perfect adaptation of the organism to its surroundings. Thin as I am I shall live to be very old, that is certain ; from the moment when I am a machine wound up with care which works logically.

"'But it is not only the health of human beings and a healthy system for living well, but work is life itself; life is the continual working of chemical and mechanical forces. Since the first atom put itself in motion to unite with its neighbouring atoms the grand creative work has never stopped, and that creation which continues, and will always continue, is the main task of eternity, the building to which we bring our stone. Is not the Universe an immense workshop where there are no strikes, where the infinitely little does a giant's task every day, and where matter acts, manufactures, and produces without ceasing, from the simple ferments to the most perfect creatures ? The fields which clothe themselves with harvests, the forests in their slow growth, work ; the rivers which run along the valleys, work ; the seas, rolling their waves from one continent to another, work ; the worlds, carried by the rhythm of gravitation across the infinite, work ; there is nothing, not a single thing, which can rest in idleness, everything finds itself drawn, put to work, and forced to do its part of the common task. Whoever does not work disappears, is rejected as useless and an obstruction, who must yield his place to the necessary and indispensable worker. Such is the only law of life, which is only matter in action, a force in perpetual activity, the god of all religions for the final work of happiness, of which we carry in ourselves the imperious need. And what an admirable regulator is work, what order it brings wherever it rules ! It is peace, it is joy, just as it is health. I am confounded when I see it despised, vilified, regarded as a chastisement and as a shame. If it saved me from certain death it has given me besides all that is good in me. It has recreated my intelligence and nobleness ; and what an admirable organiser it is, how it regulates the faculties of the intelligence, the play of the muscles, the task of each group in a multitude of workers ! By itself it will form a political constitution, a human police, a reason for being sociable. We are only born for the hive, each of us brings his effort for an instant ; we cannot explain the necessity of our life except by the need which Nature has for one more worker to do her work. Every other explanation is false and boastful. Our individual lives seem to be sacrificed to the universal life of future worlds. There is no happiness possible if we do not put it in the mutual happiness of the common eternal labour, and that is why I wish there were at last founded the religion of work, the hosanna of work, the saviour, the only truth, health, joy, and sovereign peace.

"'Work ! work !' [continues the philosopher], 'there is no other force ; when one has placed one's faith in work one is invincible, and it is so easy ; to create a world it is enough each morning to begin one's task and add a stone to the stones of the monument already placed and to raise it as high as life permits, without haste, by the methodical employment of the physical and intellectual energies which one has at one's disposal. Why should we doubt of to-morrow since it is we who make it by our work of to-day ? All that we sow to-day we reap to-morrow. Ah ! holy work, work creator and saviour, which is my life, my only reason for living.'

"His gaze seemed lost in the distance, and he talked to himself, repeating this hymn to work, which was continually on his lips in times of great emotion, and once more he said how work had always consoled and sustained him. The fact that he still lived was because he had put his life into his work, to which he had devoted all his functions. He was sure he should not die so long as his work was not finished. Whoever devotes himself to some task finds a guide and a support. His existence took an aim, his health was regulated, an equilibrium was established from which the only possible human joy sprang, that of an action justly accomplished. Unwell as he was he never entered his laboratory without feeling solaced. How many times he had set himself to his task with aching limbs, with his heart in tears, and every time work had cured him! Uncertainty and discouragement only came in his hours of idleness; his work supported its creator, it did not become fatal to him, but only crushed him when he himself abandoned it."

After this apotheosis of work, what have I to add except the remark of Sisyphus to the Fates in the *Tales of Miletus*?—

I keep my earthly wits; I have duped the three:
They gave me work for torture; *work* is joy.

I recommended you if you wanted ornament to have the best figure sculpture you could, but that is not enough, you may want some ornament carved on mouldings, or you may want floral ornament to make a contrast to figure sculpture or to plain faces. If you are born a real architect you will have the invention to make and use ornament properly, and also to make the ornament of such excellence that it does

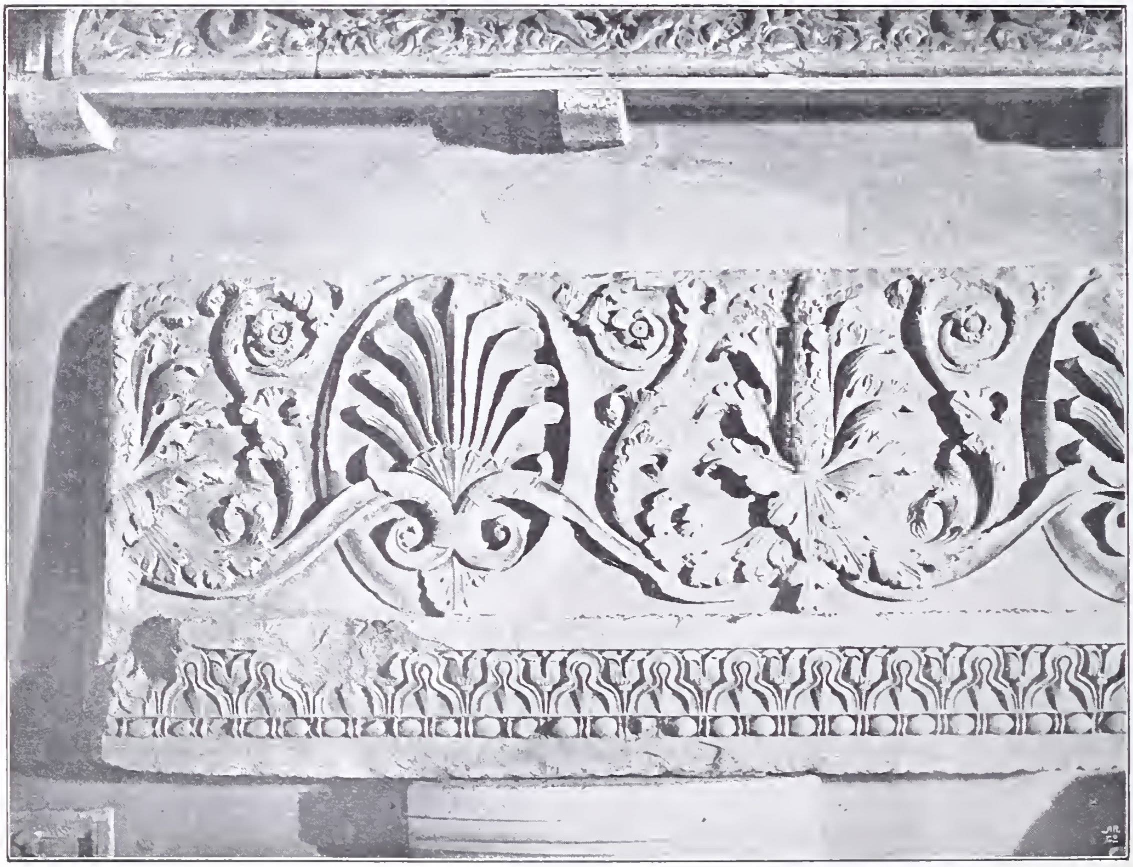

FIG. 3.—FRAGMENT OF ROMAN FRIEZE, ETC. (NOW IN THE MUSEO LATERANO, ROME).

not interfere with the purity of the architectural lines, but only enhances their beauty. Some of the Roman floral ornament went very well with the architectural lines. Roman ornament was the result of great study and great capacity. It has been the fashion of late to consider Ruskin's panegyric on Gothic ornament as being true; Gothic ornament has the merit of being original and of making a contrast to plain or moulded work, but to constitute admirable ornament that is not enough; though we want it to act that part as well, we also need it to be beautiful and suitable to its situation. The best Gothic ornament I have seen is that which has a strong tinge of the Romanesque, although there are some fine pierced Perpendicular capitals. There are some pieces of ornament on the north side of the west end of Rouen Cathedral which are charming; the celebrated spandrel at Stone Church, although it is a trifle coarse, has some of the characteristics of good architectural ornament; but except for finials of spires the Gothic floral ornament either has too little resemblance to the beauty of leaves or flowers, or else is too exuberant and what may be called *rancid*, and some is so exactly imitated from Nature that it looks as if a native plant had been electrotyped and stuck on. Architectural ornament, as I understand it, is some beautiful thing of Nature that has passed through man's mind and is fitted by that mind to improve architecture. What is wanted for any ornament for refined architecture is that the whole be made to contrast with and enhance the dignity of the architecture. The Roman ornamental carvers felt the force of this, and although we may be rather wearied with the repetition of the acanthus, it almost always answers its architectural end; the best Corinthian capitals are masterpieces of how colossal foliage should be treated to harmonise with dignified architecture. The early Renaissance architects of Italy were almost always successful with their ornament, for they were mostly accomplished sculptors or painters before

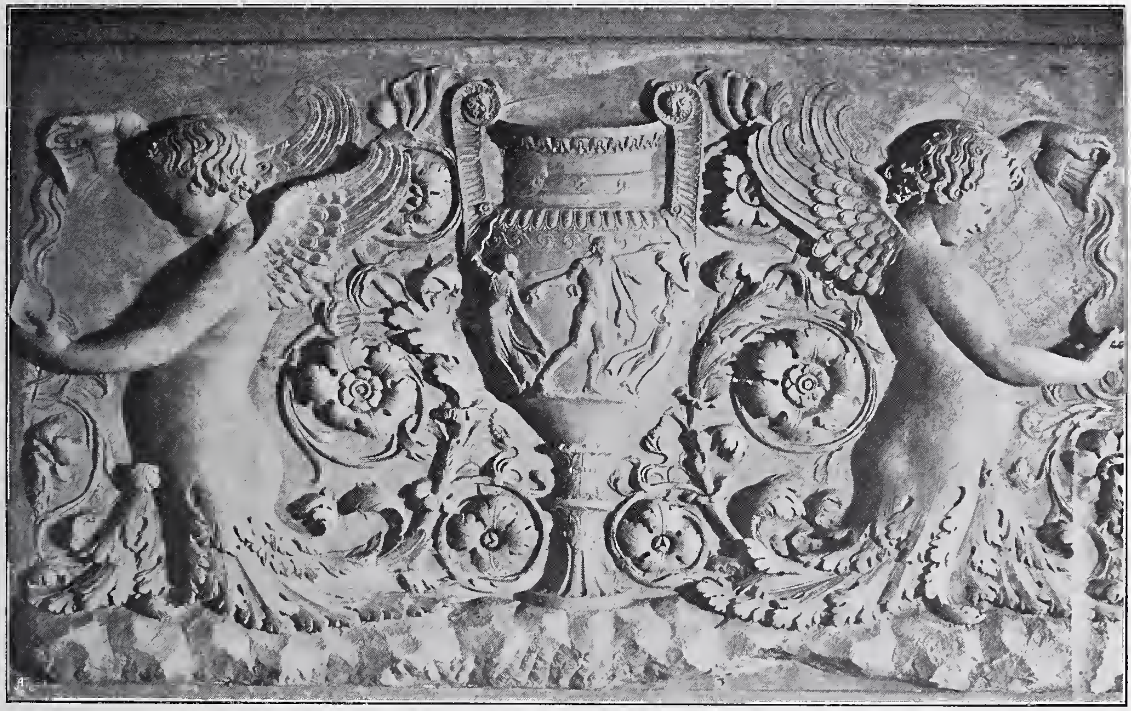

FIG. 4.—ROMAN FRIEZE FROM THE FORUM OF TRAJAN.

they began to study architecture, and that is why I have made it one of the essentials for a man who aims at being a great architect to be able to draw correctly the nude human form.

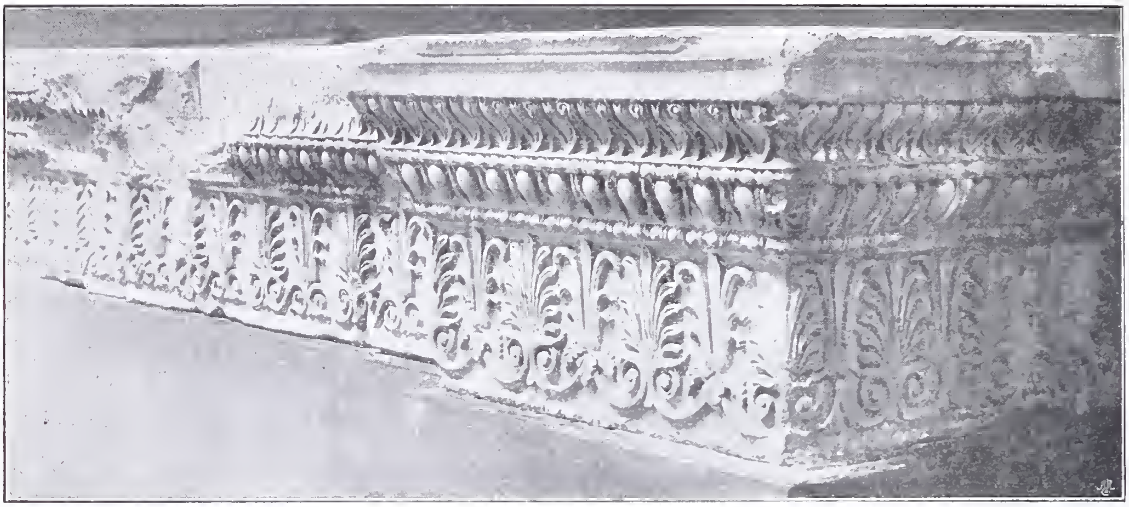

FIG. 5.—ORNAMENT FROM THE ERECHTHEION (NOW IN THE BRITISH MUSEUM).

Viollet-le-Duc is very eloquent on the advantages of the Gothic carving, which he says is a great relief from the everlasting Roman acanthus, as it was almost always taken from the trees, plants, or flowers that grew in the neighbourhood of the building; but it is something like a common saying about the author who said he wrote what was new and what was true, and some critic who agreed with this estimate of his work said it was so, only what was new was not true and what was true was not new. There is of course great merit in novelty if at the same time the work has all the grace and propriety that has been brought about by the genius of a long series of able men who have gradually corrected the faults of their predecessors. You can see in the old part of Burlington House how admirably all the ornament suits the architecture. We do not know whether this was

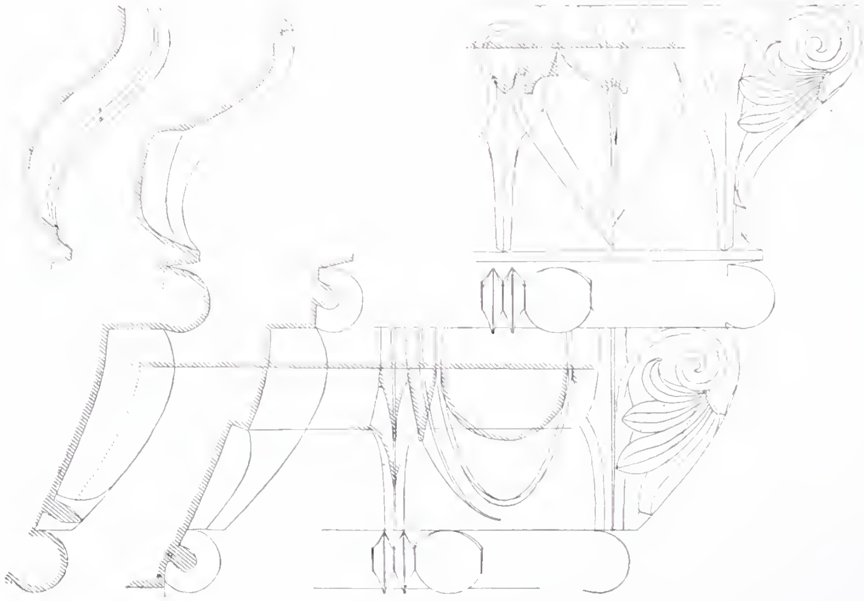

FIG. 6.—WATERLEAF, EGG AND TONGUE, ETC. ENRICHMENTS, FROM THE ANTA CAP, ERECHTHEION (QUARTER FULL SIZE).

due to Lord Burlington, even if any part of Burlington House that now remains is his, or is due to Colin Campbell, who refronted it; but in all probability Italian workmen who had studied Classic Roman work carried it out, and even if the originality of the ornament is the main thing of importance, the man who has made it perfectly harmonise with the architecture has almost equalled the merit of the original inventor. We see this fact brought most vividly before us in the designing of machinery. It naturally seems that the man who had the original idea, but could not perfect it so as to be a commercial success, has the greatest merit, whereas he gets nothing; but the man who has made it a commercial success usually reaps all the profit: he has the merit of making a useless invention useful, though really they should share the profits. It is usual to call ornament that is not a copy of an actual leaf or flower "conventional," which is a word that does not by any means express what is meant. What I think is meant by "conventional" is that good ornament abstracts such parts only from the leaf or flower as show exquisite beauty or vigour of growth, and make the finished ornament harmonise with the architectural lines. Supposing what we call the Greek honeysuckle was derived from the natural honeysuckle, it has been sufficiently altered to harmonise with the architecture, although the finest specimens of the honeysuckle have, to the best of my knowledge, never been carved. There is one whose unopened flower is like a snake's head, which has the greatest amount of what we call style of any flower that I know. It is evident that the construction of ornament from natural objects is a most difficult task, for none but accomplished figure draughtsmen can seize the peculiar elegancies of shape that portions of the most common plants generally show. I recollect once coming upon Lord Leighton when

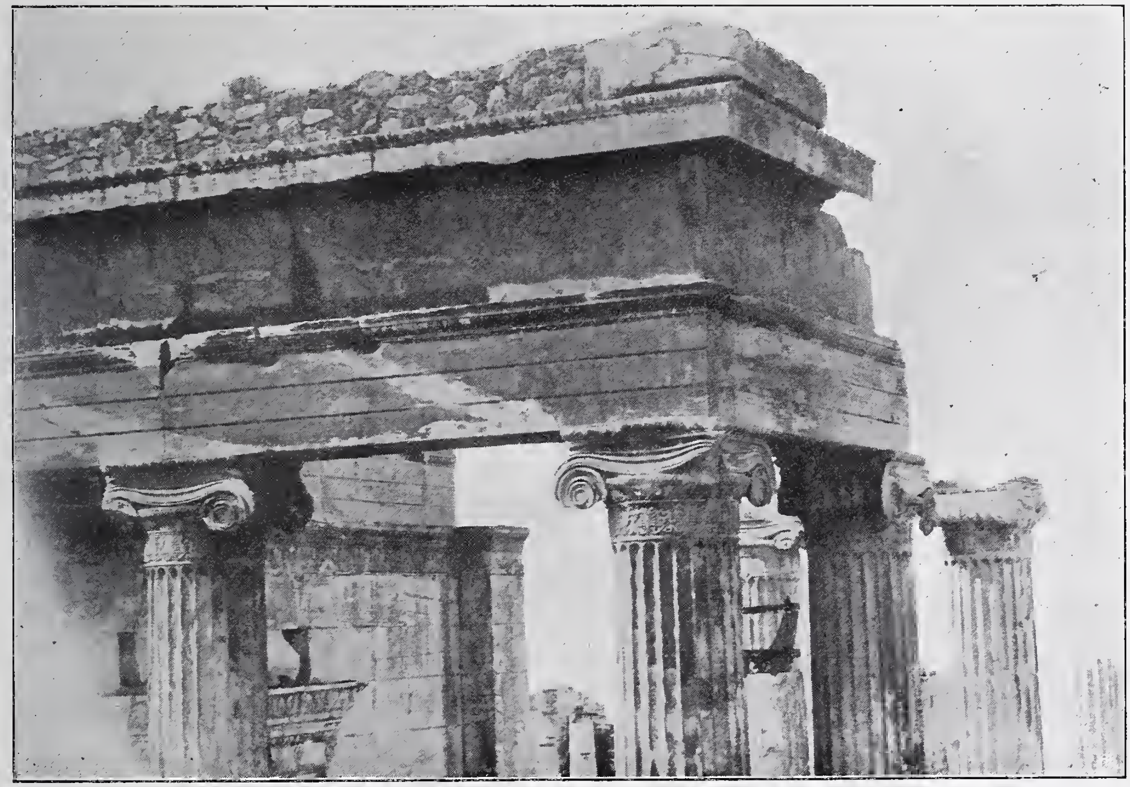

FIG. 7.—ENTABLATURE, ETC. OF THE TEMPLE OF MINERVA POLIAS, ATHENS.

he was still studying at Rome, and finding him drawing the flower of the pumpkin, and he asked me not to talk to him till he had got the particular curve in one of the petals; afterwards he made this very pertinent remark, "that the drawing of flowers correctly is quite as difficult as drawing the human face," that is, if you do it conscientiously; but there can be no critics except at the time you are drawing it with the flower before you, whereas every person is more or less a critic of the human face. We see how difficult it must be to draw plants or flowers from the usual illustrations of books of botany; the illustrations are usually good enough to let you identify the plant or flower, but the exquisite grace of form that makes plants and flowers so delightful to look on has been entirely left out. It was here that the Italian sculptors were so successful. They knew what was proper to show in architectural ornament and what was not proper, and being generally excellent figure sculptors they knew how much of the plant or flower to take for what they wanted and how much they were to leave out; and I think a great many natural objects have been admirably treated by them. Wheat in the ear has been admirably introduced into some of their carved work, although I think there are Roman examples of this.

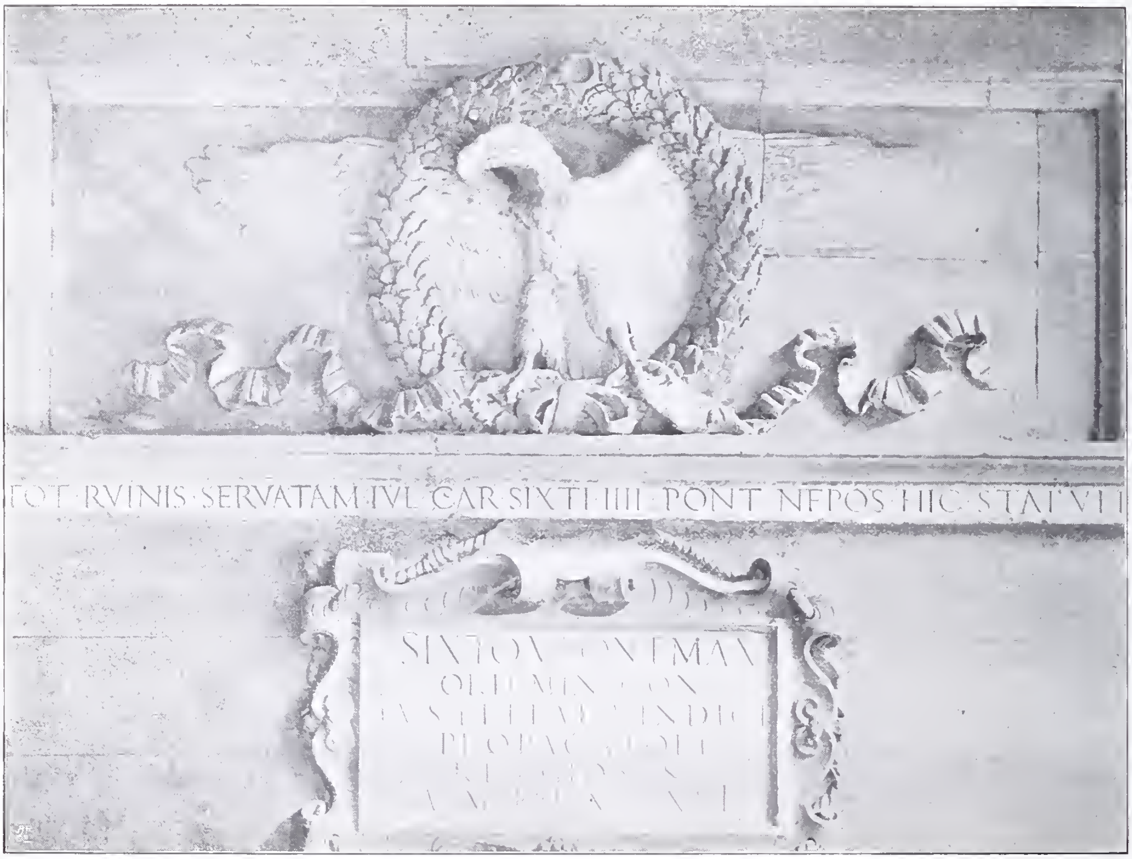
TOT RVINIS SERVATAM IVL CAR SIXTI IIII PONT NEPOS HIC STATVIT

FIG. 8.—ROMAN PANEL BUILT IN THE TOMB OF POPE SIXTUS IV.

It is rather surprising that the dandelion has been made so little use of in architectural carving, as it is a flower that seems to have been designed by a Greek artist. There is an Indian water-nut that looks very like those military impediments that are thrown in places where cavalry are expected to attack; it has three spines which stick out from the body of the nut. Of course there are thousands and probably millions of these nuts, and many of them are quite commonplace, but the very fine ones strike you as being designed by a Greek artist—in fact, we pay that compliment to the Greeks when we see any natural object that strikes us as being very dignified and full of style, such as the king crab. Lord Leighton once pointed out to me the difference in his eyes between Roman and Greek architecture: the inclination of the Roman architects was to cover everything with ornament, as may be seen in the Temple of Jupiter Tonans and the Arch of the Goldsmiths, which have no plain member but the dentil course, whereas the Greeks just put in a little piece to show, apparently, what they could do, and, as Leighton said, "the Greeks seem to say to you 'Better that, if you can.'"

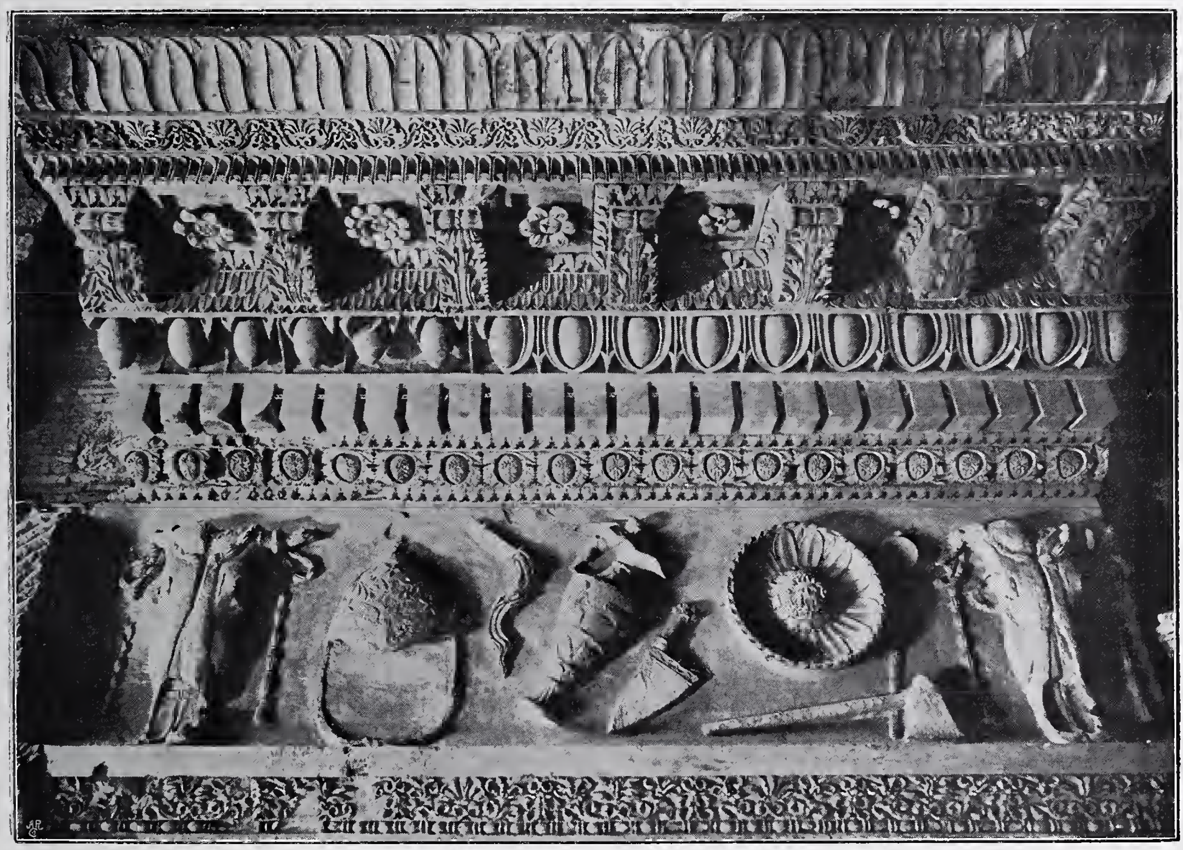

FIG. 9.—DETAIL OF ENTABLATURE OF TEMPLE OF JUPITER TONANS, ROME.

I spoke of the Parthenon, where there was no carved member except one little bead and reel, all the other ornament was painted; and in the Erechtheion, whose frieze was, I suppose, once ornamented with bronze figures, the entablature below the pediment has, I think, but six enriched members, the cymatium of the corona has an egg and tongue carved on it with a bead and reel under it, the bed-mould is carved with a water-leaf and bead, and what I may call the bed-mould of the cymatium of the architrave has another water-leaf with a bead and reel under it. This Greek water-leaf the French call "raie du cœur."

The egg and tongue is one of the greatest ornamental inventions that was ever made, for it has charmed everyone since the Greeks perfected it, and has come down to the present time, only now it is spoiled by gross exaggeration. The alternation of the thin curved shell and the smooth elliptical egg is striking and agreeable,* and the vertical tongue is a useful contrast to the curved lines of the egg; the almost circular pearl in the beading under is contrasted by the two thin edges of the reel; the water-leaf has a tongue, too, but the tongue comes up to a sharp arris and strongly contrasts with the curved outline of the leaf. In fact, in all Greek work you see the truth of Michelangelo's remark that "perfection consists in trifles, although perfection is no trifle." There is another favourite ornament of the Greeks which is called the guilloche or snare-work, and was probably suggested by some of the works done by the Assyrians or Egyptians, where ropes were twisted round pins. It was a very favourite ornament on tauruses amongst the Greeks, and the parts which were once pins are left as sockets, in which coloured glass beads were fitted, usually black and yellow, but sometimes red, yellow, and blue. It is comparatively easy to invent some kind of ornament, but it is a rare gift to be able to make it of such exquisiteness that no aftercomer can improve it. The only attempt to improve the egg and tongue that I recollect was done by the architect of the Temple of Jupiter Tonans, where he turned these immortal eggs into a bird's-nest.

Students, I hope that all of you who embrace architecture have those stirrings in you which will prompt you, if only for the sake of fame, to "scorn delights, and live laborious days." Milton says of fame that it is "that last infirmity of noble minds," but to try to endow the world with something lovely is no infirmity. The Greek carver who gave us the perfected egg and tongue has conferred a great boon on mankind, though his name is unknown. Giving delight even to those who, perhaps, can only partly enjoy works of exquisite beauty is a priceless gift to humanity. Who does not thank the sculptor of the Apoxyomenos, the Venus of Milo, or the engraver of the coins of Syracuse, although the name of the artists be unknown? We should be equally charmed by the sacristy of San Lorenzo or "The Slave" though we had never heard the name of Michelangelo. If we had but those lovely lines—

> . . . I know
> That all about the thorn will blow
> In tufts of rosy-tinted snow;
> (*The Two Voices*)—

we should be grateful for this morsel of a great poet if the very name of Tennyson had been lost and the rest of his works had perished.

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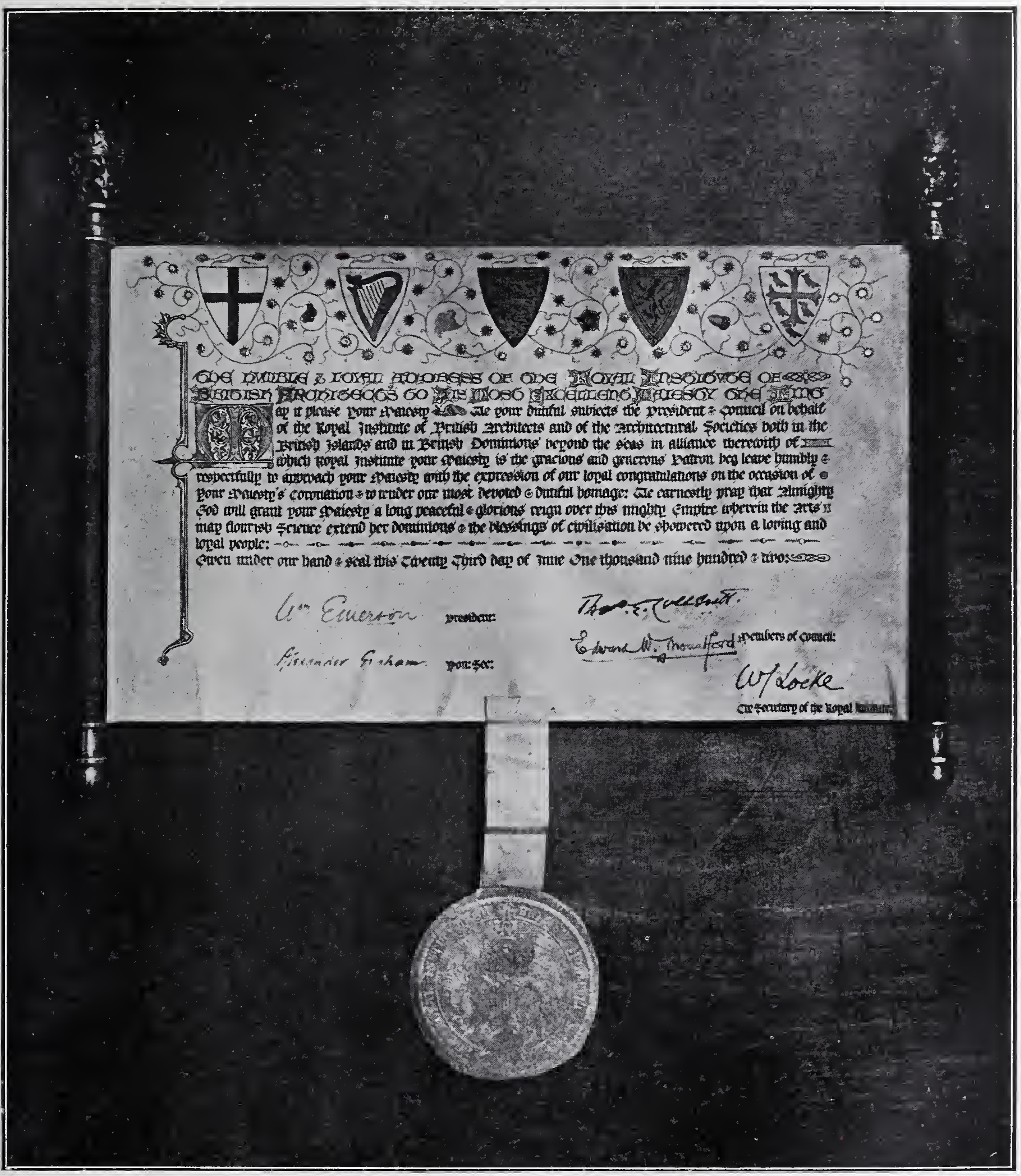
* John Ruskin has a beautiful passage on this, but I cannot tell you in which of his books it is to be found.



The Humble & Loyal Address of the Royal Institute of British Architects to His Most Excellent Majesty the King

May it please your Majesty We your dutiful subjects the President & Council on behalf of the Royal Institute of British Architects and of the Architectural Societies both in the British Islands and in British Dominions beyond the seas in alliance therewith of which Royal Institute your Majesty is the gracious and generous Patron beg leave humbly & respectfully to approach your Majesty with the expression of our loyal congratulations on the occasion of your Majesty's Coronation & to render our most devoted & dutiful homage: We earnestly pray that Almighty God will grant your Majesty a long peaceful & glorious reign over this mighty Empire wherein the Arts may flourish Science extend her dominions & the blessings of civilisation be showered upon a loving and loyal people:

Given under our hand & seal this Twenty Third day of June One thousand nine hundred & two:

Wm Emerson President:

Alexander Graham Hon: Sec:

Thos. E. Collcutt.

Edward W. Mountford Members of Council:

W J Locke

The Secretary of the Royal [illegible]

9, Conduit Street, London, W., 30*th Aug.* 1902.

CHRONICLE.

The Coronation Address.

On the preceding page is a photographic representation, to about half scale, of the Address presented by the Council on behalf of the Royal Institute to His Majesty King Edward VII., on the occasion of the Coronation, at length so happily solemnised on the 9th inst. The Address, beautifully illuminated in gold and colours, was attached to oaken rollers, on the tops of which, carved in silver, were mounted the heads of the lions figured on the Institute seal. The Address was enclosed in an oaken casket with hammered gunmetal bands and hinges. The work was carried out by Messrs. Ramsden & Carr, of the Albert Studios, Albert Bridge Road. The following is the text of the Address:—

The Humble and Loyal Address of the Royal Institute of British Architects to His Most Excellent Majesty the King.

May it please your Majesty,—We your dutiful subjects the President and Council, on behalf of the Royal Institute of British Architects and of the Architectural Societies both in the British Islands and in British Dominions beyond the seas in alliance therewith, of which Royal Institute your Majesty is the gracious and generous Patron, beg leave humbly and respectfully to approach your Majesty with the expression of our loyal congratulations on the occasion of your Majesty's Coronation, and to tender our most devoted and dutiful homage: We earnestly pray that Almighty God will grant your Majesty a long, peaceful, and glorious reign over this mighty Empire, wherein the Arts may flourish, Science extend her dominions, and the blessings of civilisation be showered upon a loving and loyal people.

Given under our hands and seal this twenty-third day of June One thousand nine hundred and two.

Wm. Emerson, *President.*
Alexander Graham, *Hon. Sec.*
Thomas E. Collcutt, } *Members of*
Edward W. Mountford, } *Council.*
W. J. Locke,
The Secretary of the Royal Institute.

The New Government Offices.*

Replying to the criticisms passed by Lord Balcarres in the House of Commons upon the policy of the Office of Works with regard to the execution of the late Mr. Brydon's designs for the new Government Offices in Parliament Street, Mr. Akers-Douglas again expressed the anxiety of the Government that Mr. Brydon's plans should be carried out in their integrity, and repeated that he had tried to get an architect of note to undertake the work, but that was only possible on condition that the architect was given a free hand.

They had (said Mr. Akers-Douglas) the assistance of Sir John Taylor, who had worked constantly both with Mr. Young and Mr. Brydon in the preparation of these plans, and was intimately acquainted with Mr. Brydon's desires and in sympathy with his views. They had also engaged Mr. Brydon's chief assistant, who had under that gentleman's personal direction prepared the greater portion of the drawings, to carry out the smaller drawings and the necessary details. He could assure the noble lord that the saving of expense was not his main object at all, and that he was perfectly ready to spend all the money if he thought good work could be done with it. In order to secure to the House that the plans which they had approved of should be carried out in their integrity and without any change, directly he received them from Mr. Brydon's executors he had them stamped and countersigned by the President of the Royal Institute of British Architects; and, if the House desired it, the plans would be deposited there and would be entirely at their disposal. The noble lord had asked him for an assurance that no variation whatever should be made in these plans. He had already given a public assurance, and he now repeated it, that no variation at all would be permitted in the external elevations, and that, where it was necessary to make slight variations in smaller matters, such as knocking two rooms into one, they should only take place when approved by the President of the Royal Institute of British Architects and the consultative committee.†

Mr. Leonard Stokes [*F.*] writes with reference to the above:—

Lord Balcarres deserves our very best thanks for the able way in which he headed a forlorn hope against the Government for their unaccountable action with respect to the new Government Offices in Parliament Street. Of course, it could hardly be expected that the Government would give way, even an inch; but it is curious that Mr. Akers-Douglas (though not so reported in *The Times*) should accept the whole responsibility —credit or otherwise—for the course adopted one week, and the next abandon the whole situation and hand over to his successor, Lord Windsor, this very responsibility, so glibly assumed and so soon forgotten!

Mr. Akers-Douglas told the House how he had failed to find an architect to carry out Mr. Brydon's design in its integrity. But, as Lord Balcarres very properly pointed out, Mr. Akers-

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* Journal R.I.B.A., Vol. VIII., pp. 432, 464, 484; Vol. IX., p. 62.

† Debate on Supply, *The Times*, 30th July 1902.

Douglas had not gone the right way to work, for instead of making his celebrated "confidential inquiries," he should have consulted the Institute, the Council of which body might possibly have been able to help him; and if it is not too late, even at this the eleventh hour, Lord Windsor might himself take this step.

The House was told how an Advisory Committee had signed the drawings handed over to the Office of Works, and how Brydon's chief assistant had been engaged, &c., &c.; but Mr. Akers-Douglas must know perfectly well that although all this sounds very well, in the House, it really means very little; why did he not tell the House that his very Advisory Committee, to whom he pledged himself to refer all matters of detail, is against him on the broad principle of the Office of Works having to complete the building at all? Why did he not tell the House that the gentleman who was Brydon's chief assistant is now quite a subordinate at the Office of Works? And last, but not least, why did he not make it clear that no full-size details were made by Brydon at all (with two trivial exceptions), and that it is just upon these very details, made full-size, that the whole life and soul of the building depends? He might have told the House all this and more, for he must know that a department has neither life nor soul, and therefore cannot impart it to anything; or if he does not know it, his successor knows it, and therefore even though the whole thing looks hopeless—and flogging a dead horse is proverbially useless—one more effort to save Brydon's building—or at any rate, the exterior of it—might well be made under the altered circumstances of the case.

Exemptions from the Intermediate Examination.

The Council, on the recommendation of the Board of Examiners, have resolved that *Probationers R.I.B.A.* who have attended the full two years' course in architecture at University College, Liverpool, and have obtained a first-class certificate at the College Final Examination, may be exempted from sitting for the Institute Intermediate Examination and be admitted as *Students R.I.B.A.*, provided that the work done by them during the Session be submitted to and approved by the Board of Examiners as Testimonies of Study. The following Probationers having passed the Examination recently held at the College and received the Final Leaving Certificate granted by Professor F. M. Simpson [*F.*], and their Testimonies of Study having satisfied the Board of Examiners, they have been registered as *Students R.I.B.A.*—viz.

DAHL: John Love Seaton [*Probationer* 1901], The Park, Hull.
DAWSON: Philip [*Probationer* 1902], 12 St. Paul's Square, Liverpool.
OLIVER: Basil [*Probationer* 1900], Sudbury, Suffolk.

The Institute is to be represented at the Liverpool University College Examination above referred to by a member of the R.I.B.A. Board of Examiners.

The Board of Examiners: New Chairman.

Sir Wm. Emerson, on the invitation of the Board of Examiners, has accepted the position of Chairman of the Board, Mr. Aston Webb, A.R.A., having resigned the office on his election as President of the Institute.

The Plumber and Public Health.

At the Congress of the Royal Institute of Public Health, held at Exeter during the past week under the Presidency of the Earl of Iddesleigh, the following resolution was carried unanimously:—"That this 1902 Congress of the Royal Institute of Public Health, held at Exeter, approves of the efforts made by the Worshipful Company of Plumbers, in promoting the Plumbers' Registration Bill, believing that such a measure will be for the safeguarding of the public health and beneficial to all classes of the community, and appeals to the Government to give facilities and support to the measure.'

The late William Salway [*F.*].

Mr. George C. Inskip [*F.*], Hon. Sec. R.I.B.A. for the State of Victoria, Australia, sends news of the death on the 18th June last of Mr. William Salway [*F.*], elected *Associate* 1874, *Fellow* 1885. Mr. Salway was born in London in 1844, and went to Melbourne with his parents in the early 'fifties. On leaving school he was articled to Mr. William Read, of Messrs. Read and Barnes, and subsequently practised for 11 years at Hong Kong, where he designed and superintended the erection of many public buildings. Returning to Melbourne in 1876, he entered into partnership with Mr. T. Conlon, and on that gentleman's death carried on the business until he removed to Western Australia about six years ago. In 1899, he resumed business in Melbourne. Mr. Salway was awarded the first prize for his competitive designs of the Spencer and Flinders Streets railway stations, Melbourne. He was architect of the Australian Church, the Athenæum Club, the Melbourne Cricket Club pavilion, and many public and private buildings in Melbourne and suburbs.

The late George Truefitt, *Retired Fellow.*

Mr. George Truefitt, who died on Monday the 11th inst. at the age of seventy-eight years, was elected a Fellow of the Institute in 1860, and was placed on the list of Fellows Retired from Practice in 1899. Until his retirement he practised at 5 Bloomsbury Square, London, and for the last ten years he had resided at Worthing. The following particulars of his career have been kindly contributed by his son, Mr. G. H. Truefitt:—

At the age of 15 he was a pupil of the elder Cottingham, and was articled to him for five years. He then had an appointment with the late Mr. Sancton Wood, and afterwards with Mr. Eginton, of Worcester, and subsequently went with his friend, Mr. Calvert Vaux, on a walking tour through France and Germany, taking between 400 and 500 sketches. On his return, although very young, he competed for the Army and Navy Club in Pall Mall, a most successful competition for him, as his design brought him one of the best of friends and clients in Mr. (afterwards Sir) William Cunliffe Brooks, M.P., for whom he worked till Sir William died. Mr. Truefitt restored 10 and erected 16 churches and chapels, including St. George's, Tufnell Park; St. George's, Worthing; St. John's, Bromley, Kent; Davyhulme Church, Cheshire; Blakemere Church, Herefordshire, &c. He erected 8 rectory-houses, 7 schools, 13 banks in London, Manchester, Altrincham, Blackburn, &c.; 7 large halls and church rooms, 170 houses and mansions, including a large house at Antibes, in the South of France; 20 various buildings, 44 cottages and lodges. Amongst his works he laid out large sums of money in the forest of Glen Tana, Aberdeenshire, for Sir William Brooks, in architectural buildings, and he carried out extensive restorations and additions to Aboyne Castle (Aberdeenshire), the residence of the Marquis of Huntly. He was architect to the Tufnell estate for over 25 years. Mr. Truefitt was always a hard worker, making himself the whole of his designs, drawings, working drawings, specifications, and perspectives, coloured or in pen-and-ink. Competitions were easy with him, as they never cost him anything but his own time, and he reckoned that of all the work he had done about three-fourths of it had been the result of competitions. He was always very fond of sketching, both in pen-and-ink and colours, and this his favourite amusement he continued till his death.

REVIEWS.

WALL DECORATION.

Modern Mural Decoration. By Alfred Lys Baldry. Lond. 1902. Price 12s. 6d. net. [George Newnes, Ltd., Southampton Street, Strand.]

Mr. Lys Baldry in his present volume throws so wide a net, and gives such generous value to the word "mural" as to allow that word to embrace not only ceilings, but also what one would have imagined to be unquestionably architectural features. If he resolves to admit, for instance, as coming within his scope, the caryatides executed by Mr. A. Drury, A.R.A., for the British East India Steam Navigation Company's offices in the City, or the old fireplace from Bromley Palace (now in the Victoria and Albert Museum), he seems to be widening his subject somewhat unduly. On such lines almost all and every architectural incident (save, perhaps, the roof and the chimneys) may be considered wall decoration. Of course, in one sense they are, but to so include them in the present work misses a chance by which its title had led one to think Mr. Baldry had profited. One rather regrets that he did not confine himself to the very useful consideration of the wall *as wall*, looked at in the light of certain processes that make for the embellishment of its flat surface—such as fresco, mosaic, sgraffitto, and the like, his consideration of which, by the way, is interesting and valuable.

Again, it is to invest the word "modern" with a very broad comprehension to allow it to include the treatment and illustration of, say, Raphael's Vatican fresco (p. 3), the carved front of an old Indian house (p. 135), and the Adam ceiling at Saltram (p. 84). Full of interest and value to the craftsman though these be, yet one cannot help wishing the space devoted to their illustration had been occupied by some more examples—of which so many are at hand—of that wall decoration of our own time which the title leads us to expect. The author might well have been content to leave in the hands of the countless many who have dealt with it the treatment of mantelpieces, modelled ceilings, arcaded screens, and the like, and have confined himself to the flat treatment, whether by applied colour processes or otherwise, of the vertical plane of wall-surface. It is, of course, difficult to draw a fast line, but one hardly thinks that, for instance, the illustrations on pp. 75, 88, 89, 136 throw very much light on the consideration of how best to decorate a wall.

The description of the various fresco methods is of much interest, and the balance of evidence seems to be in favour of that described fully on page 23, and known, we believe, in Germany as Keim's process. Time alone can give us assurance of the permanence of this—as of any other—method, but the present writer can speak highly as to its ability to stand a thorough wetting without any "running" of the colours, or any change in their values and tones. In the case to which he refers accident had caused a portion of the barrel-ceiling and walls of a church treated by this process to be flooded with water, and absolutely saturated. The work stood the disaster admirably, and eventually dried without showing any evidences of this severe test.

The whole of the earlier part of Mr. Baldry's volume, treating in technical detail of the various methods by which walls can be flatly and—generally—polychromatically ornamented, is instructive and thoroughly done. Indeed, the only criticism of his work now advanced is the not very serious one that he gives, on the whole, rather too full and wide a meaning to the subject-matter on which he engages to write. At all events, one result of his doing so is that we have, in his handsome volume, a series of carefully chosen and very beautifully executed illustrations, and a treatise that is instructive and interesting.

C. Harrison Townsend.

THE ART OF DESIGNING.

Decorative Brush-work and Elementary Design. A Manual for the use of Teachers and Students in Elementary, Secondary, and Technical Schools. By Henry Cadness, Second Master of the Municipal School of Art, and Lecturer in Textile Design at the Municipal School of Technology, Manchester. With thirty-eight Plates, comprising about Four Hundred Examples of Design. 8o. *Lond.* 1902. [*B. T. Batsford*, 94, *High Holborn.*]

This is another addition to the large number of books which are intended to teach the student how to design; but can the art of designing be learnt from books? It is doubtful if they serve any useful purpose.

This manual is composed of miscellaneous jottings from the history of ornament, with comments which are mostly evident. The great periods of architecture and ornament are described as the square style, the circle style, and the pointed style—this is no improvement on the nomenclature generally accepted.

The first chapters are devoted to a description of the materials used in designing and how to use them in making working drawings, and information such as "the face side of the paper is that on which the watermark reads rightly when held up to the light"; these things most students have learnt before they commence to design, for surely they pass through a course of drawing before attempting to create.

Some of the drawings of animals, and the reproductions of illuminated manuscripts in the British Museum are good.

Francis W. Bedford.

OLD ENGLISH FURNITURE.

Measured Drawings of Old Oak Furniture, also of some Remains of Architectural Woodwork, Plasterwork, Metalwork, Glazing, &c. By John Weymouth Hurrell. Imp. 4o., *containing* 110 *Plates. Lond.* 1902. *Price Two Guineas net.* [*B. T. Batsford*, 94, *High Holborn, W.C.*]

This volume promises to form an important addition to the works already published on furniture and internal finishings. The examples selected for illustration in works dealing with this subject are usually of the monumental, over-ornamented type, which are not likely to prove of much use to the designers of the present day. Mr. Hurrell, on the contrary, has made a most happy selection of the simpler examples of domestic furniture, panellings, ceilings, &c. of the seventeenth and early eighteenth centuries, in which the effect produced is entirely due to pleasing proportion and richness of moulding. Good English oak, from the beauty of its colour and markings, as well as from its strength and durability, offers cabinetmakers greater advantages than almost any other wood. The elevations, sections, and full-size details throughout the book are accurately measured and carefully drawn, and give just that information which is so valuable and interesting to the student and designer. The subjects, including cabinets, chests, and tables, are many of them beautiful in themselves, and all are typical, as showing how the old cabinetmakers appreciated the value of breadth in design and skilfully applied their crude ornament to its best advantage. The work further contains several interesting examples of modelled plaster ceilings, and some sheets of well-designed brass furniture and inlay.

E. Charles.

LEGAL.

London Building Act 1894, s. 84: Wooden Stands: Duties of District Surveyors.

The case stated between the Mayor, Aldermen, and Councillors of the City of Westminster and certain of the District Surveyors upon the questions relating to the position of District Surveyors and builders with regard to the erection of wooden stands and other structures under section 84 of the London Building Act 1894, the licensing of which was transferred from the London County Council to the newly constituted boroughs under the London Government Act 1899, was heard and decided in the King's Bench Division of the High Court on 15th May last. The final order of the Court, omitting the preamble, was as follows:—

> Upon reading the questions submitted for the decision of this Court under section 29 of the London Government Act 1899, in the form of a special case agreed on between the parties; and upon hearing Mr. Manisty, of Counsel for the Mayor, Alderman and Councillors of the City of Westminster, and Mr. Macmorran, of Counsel for Thomas Henry Watson, William Alfred Large, Robert Kerr, Edward Dru Drury, Charles Forster Hayward, Alfred Williams, and William Hewson Lees, District Surveyors, acting under the London Building Acts, within the said City: This Court doth decide the said questions as follows, videlicet:—
>
> 1. The powers, duties, and liabilities of the District Surveyors with respect to the supervision or inspection of wooden structures, falling under section 84 of the London Building Act, have not been transferred to the City Council and its officers, but the District Surveyors have no powers, duties, or liabilities under the Licenses granted by the City Council.
> 2. Wooden structures falling within the said section 84 are works of which the District Surveyor should have notice under section 145 of the said Act in a proper case.
> 3. The right to receive the fees for such supervision and inspection, specified in paragraph 15 of the said special case, has not lapsed, nor has it been transferred to the City Council or its officers.

DUTIES AS TO DRAINS.—I.

By Algernon Barker, Barrister-at-Law (Newcastle-on-Tyne).

> "Wells, drains, and sewage outfalls are
> My own peculiar fad.
> I learnt a lesson once. It ran
> Thus," quoth that most veracious man:

KIPLING'S hero had his reasons for desiring "well-flushed culverts" with such happy results to his district. The architect may have no mad commissariat elephant chasing him along a choked-up drain to fear, but only the watchful vigilance of a very sane Council and surveyor.

1. Methods of Enforcing.—There are three methods of forcing the owner of a house to drain it. In an urban district there is the "penal method" under section 25 of the P.H.A., in the case of a new or renewed house, and in all districts there is the "expense" or "subsequent alteration" method as to new or old houses (under section 23 of the P.H.A. 1875); finally, there is the nuisance method with regard to all landed property (under sections 91, &c., of the same Act). Another duty may be to pay for *sewers* in certain cases.[*] As regards duties as to removal of dry refuse, I speak in my excursus on the subject added to the previous lecture.[†]

2. Penal Method.—The first of these four matters is the "penal method," under section 25 of the P.H.A. 1875. The section reads thus:—

> It shall not be lawful in any **urban** district **newly** to **erect** (pars. 23-26) any **house** (pars. 3 18, and 19–22), or to rebuild any house which has been **pulled down** to the **ground floor** (pars. 27–35), or to occupy (pars. 3, 5 and 36–40) . . . unless and **until** a **covered drain** (pars. 69 and 70) or drains be constructed of such **size** (par. 71) and **materials** (par. 72) and at such **level** (par. 73) and with such **fall** (par. 73) as on the **report** (pars. 43–49 and 58) of the **surveyor** may **appear** to the urban **authority** (pars. 51–68) to be **necessary** (par. 74) for the effectual (par. 74) drainage (par. 75) of such **house** (*ubi supra*, and pars. 75, 76, and 77), and the drain or drains so **to be** constructed **shall empty** into **any** (par. 78) **sewer** (par. 79) which the urban authority are **entitled to use** (par. 80) and which is **within 100 feet** (par. 82) of some part of the **site** (par. 83) of the **house** (*ubi supra*) to be built or rebuilt; but if no such means of drainage are within that distance, then shall empty into such **covered cesspool** (par. 84), or **other place** (par. 84) not being **under any house**, as the urban authority **direct**.
>
> **Any person** who **causes** any house to be erected or *any drain to be constructed* in contravention of this section shall be liable to a **penalty** (par. 85) not exceeding £50.

The section only applies to an urban district, or to a rural district which has been urbanised under section 276 of the P.H.A.

On this section numerous questions arise. First, Does the section apply? What is a house and what is not? (pars. 3 to 18). What can be considered to be part of the house? (pars. 19 to 23). When is a house considered as "newly erected"? and when can it be said to have been "pulled down to the ground floor"? (pars. 23 to 40). What, also, does the section mean by "occupying" the "house"?

Secondly, if it applies, what are the requirements both as regards the structure of the drain and also in respect of the destination of the sewage? With regard to structure we ask, in order to see if the orders are proper and legal, "What discretion has the Council"? We shall see that the Council may act inaccurately and harshly, but that it is bound to exercise a discretion, which must be mature, unprejudiced, relevant, not delegated, and must be punctual, and not actually lead to nuisance. If these rules be carried out, we have no appeal against it. I shall also discuss the surveyor and his report.

Then, again, what is comprised in these particulars as to size, materials, level, and fall, which together with number of drains constitute the five structural matters as to which they can command us?

As regards destination, there is the question as to whether you can choose your sewer, what sewers can be used, what meaning the words "entitled to use" bear, as to how the 100 feet is to be measured, as to what "site" and "house" mean, and what is included in "house."

Further, we consider the alternative destination of cesspools and other places, what they are, and what latitude the Council has in prescribing them. Finally, we note that there is no penalty for occupying, and consider who pays for and has to make drain and cesspool.

(Par. 41 contains a complete summary of all the remaining questions with references to pars.)

"House" or Not.

We will therefore investigate as to whether the building which we are required under section 25 to drain is or will be a "house" at all. If it is not or will not be a "house" (provided also that it is not part of one), we can defy the section, for we shall not be erecting or rebuilding, or occupying a "house," and, not being a house, no drains will be "necessary" for its "effectual drainage." Even open land may, as we saw in the last lecture, be sufficient to give us rights, but it requires a "house" to enforce upon us duties under section 25.

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[*] P.H.A. = Public Health Act, 1875. Max. = Maxwell on Statutes, latest ed. Lumley = Lumley's P.H.A., latest ed.

[†] Mr. Barker's previous lecture as to Rights was published in the JOURNAL R.I.B.A. for 8th June, 27th July, and 31st August, 1901.

3. Why is "erecting" punished? Differences between "Houses by Plan" and "Houses by Employment."—One difficulty should be faced at the outset. The building owner can be fined for erecting or rebuilding a house without proper drains, even before that house is put up. The reason of this is plain, for, if badly-drained structures are put up which would, from their external character, lure tenants, workmen, shop assistants, or the like, to coming and spending a large portion of the day there, it would be most unwise of the State to wait till they were so occupied. Prevention is better than cure (*j* 4).* It is no good shutting the door when the mare has got out. The surveyor cannot be always round the corner waiting to see that the building is not so occupied, and so he is given powers very early in the day. If persons choose to go into a pigsty or a haybarn, or a caravan, or houseboat, that is their own look-out; they cannot expect drains; but, if the building looks more or less like a house, then the State says that they shall not be bound to see to the drainage every time they take a house or office, or accept a situation in it. If in the plans these resemble buildings commonly used as houses, they are "houses," and the surveyor can interfere.

4. Houses by Plan.—But what do we mean by "commonly used as houses"? This question we shall enter into more fully. The use must be something in the nature of an abode—*i.e.* indoor, human, many-houred (*i.e.* for a good part of the day *or* night, without much interruption), and habitual, that is to say, the building must not be used for this purpose only now and then, or only temporarily, like a shanty.

But then, you ask, how can the surveyor say what we will do with a building from merely looking at the plans? The means of prophecy are to hand in the character of the house. Does it on the plans resemble buildings so used in that it is to have a roof, walls, a door and window (perhaps a chimney), sufficient capacity for men moving in it, also permanence and other marks usually found in houses used as above described, viz., for the purposes of a human, indoor, many-houred, habitual inhabitancy (whether nocturnal or not)? Is it therefore likely to lure tenants or servants? If it answers this description then it is a "house by plan."

The reader may ask, Why talk so vaguely about the usual marks of houses usually occupied in such and such a way; why not say simply that a building is not a house by plan, unless it has doors, chimney, roof, windows, and walls, and is permanent and not too miniature? Well, an engine-house has these, but it is not a house, so has a cowhouse. Again, I can only give principles; the reader must act as a jury and apply those principles to facts. Principles are always vague, and never more so than when definition is concerned. Further, as definite authorities on "house," under section 25, are so rare, we must consider principles—*i.e.* the "why"—to ascertain, if other cases apply when they decide as to facts, *i.e.*—as to the "what."

5 Houses by Employment.—The other offence is "occupying" a house before it has been properly drained. We have just considered a house which was such owing to its design or structure. I now come to a house which becomes such by employment. It may have been a house by structure, and its occupation may only go to confirm its "housiness." On the other hand, it may not have been a house on the plans, but may have become such solely by employment. In what cases can this happen? Only in one way, viz., when people are taught or employed there, for this makes it either "a school, a factory, or a place where persons are employed." When we come to discuss the definition clause, which includes these in the term "house," we shall see that even here a certain amount of housiness is needed. To occupy a "house" or a school, factory, or other building in which persons are employed until it has been properly drained is, I think, an indictable offence since it has no penalty attached. No apology is needed for considering the offence of occupying a drainless house. For, why put up a house which cannot be used?

6. House by plan (continued).—We are now in a position to investigate the problems which will arise, and in my experience have arisen. If our structure will be a dwelling, we have nothing more to say. If it will be a statue or a fountain, an open-air convenience or a pigsty, the surveyor can say nothing. But suppose it is to be a lock-up shop or, say, a public hall with no caretaker, an ordinary stable or temporary shanty, or, on the other hand, a legally consecrated Anglican church, or, again, suppose it is a factory or a workshop, or a dairy farm or a livery stable, or a warehouse, need we drain it under the section? I have heard of people living in piggeries which had none of the characteristics of a house even in the broadest sense of the word. Can the building owner be forced to drain these? We shall see that he cannot be forced to do so under this section, as they are not "houses." But there may be other means of punishing him (see later "occupying").

7. Popular, Particular, and Definitionary Meanings.—There are three factors to be considered in interpreting the word: the general meaning—in popular parlance; the special meaning in our particular section, either as actually or by analogy from other cases, likely to be given by judicial interpretation; and, thirdly, the meaning superadded by the definition clause.

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* The italic letters refer to the notes appended to each part.

We may find that in popular parlance our structure is not a "house." We may find that, even when the Courts give the word its particular common-law meaning under our particular section, the building we plan is not a "house"; still, there is a third card with which our vigilant friend the surveyor may try to trump us, and that is the definition clause. By this I mean the artificial statutory meaning which Parliament has superadded to the word. The Legislature is the sovereign power of the land. It may speak in a cipher or jargon of its own, and by its dread fiat may (though it does not) include a jampot, a wheelbarrow, or a signpost, or other like objects under the term "house." The definitionary meaning, however, in no way extends the class of houses by plan, but only of houses by employment; but *Bennett* v. *Harding*, discussed par. 17, is most useful as to houses by plan.

8. Popular Meaning of "House."—In ascertaining the popular meaning we must not be troubled with the etymology. We do not care what the word meant to Hengist and Horsa, but what it means now. So also the primary meaning may in this enlightened age be uncommon.

We ask first, "*Is a building a house, unless it be an abode for man?*" The *Century Dictionary* gives the primary meaning of "house" as "a place of occupation, *e.g.* a dwelling-house, banking-house," and a tertiary meaning as "other store places such as a warehouse, tool-house, or cow-house." Old *Johnson* defines it as (1st) a place of human abode, (2nd) of any abode. The *New English Dictionary* defines a "house" as—"1a, a building for human habitation, especially a building that is the ordinary dwelling place of a family; 2 and 3a, a building for human occupation for some purpose other than an ordinary dwelling, or for cattle, birds, &c. (usually coupled with a descriptive noun); 3b, business houses (not always so coupled)."

Common-sense says that a "house" usually means a dwelling-house for human beings. A man would hardly point to a stable and say, "That is my house."

Then the Judges have their ideas as to the *general popular* meaning of the word. (I am *not* now dealing with its common-law meaning in particular cases.) These agree that a building cannot be classed as a "house" unless it has sufficient size for a man to move about in it, and more or less permanent (*Chapman* v. *Royal Bank of Scotland*, 7 Q.B.D. 140), and unless it is structurally designed for the habitation not of pigs or spades or bales of cloth or sacks of flour, but of man. It is only a house if there are windows, chimneys (*Daniel* v. *Coulsling*, 14 L.J., C.P. 70), and an entrance capable of being closed (*ibid.* and *Esdaile* v. *London Asst.*, 46 *J. P.* 103); and according to Lord Esher (*Wright* v. *Ingle* [1885], 16 Q.B.D. 375), that apostle of common-sense, an open hay or cart-shed, a cowhouse, or a greenhouse used only for sheltering plants can *never* be a "house." Another Judge, however, says that it is only the primary meaning of "house" which requires fitness for *man* to dwell in, and that in popular language the word might include other buildings (*Surnam* v. *Darley*, 14 M. & W. 181); and *Grant* v. *Langston* (1900, A.C. 383) rather confirms this, but to me it is clear that nothing less than human abode can make a "house" in the popular sense.

The next question which arises is *whether this abode need be nocturnal—i.e.* whether a building can be called a "house" in the popular sense though a man does not sleep there (except the workman at his morning and afternoon siesta!). The dictionaries seem to say that nocturnal habitation is unnecessary, and in *Richards* v. *Swansea*, 9 Ch. D. 425 (as to compulsory purchase), it was said that in ordinary parlance the word "house" can include shops. On the other hand, there is the authority of *The Yorks Insurance Co.* v. *Clayton* (1881), 8 Q.B.D. 423, for excluding shops, offices, and warehouses from the category of houses in the ordinary popular meaning. In my opinion a building may be a house though no one sleeps there, but if a stable is a house, it is the man, not the horse, who makes it such.

To sum up, then, a house in popular parlance is a place for human abode by day or night, and by abode is meant many-houred occupation.

Now we leave the general popular intent and consider the particular meaning which the Judges (apart from any express statutory definition) would assign to the word "house" in our section.

9. General Purpose of Section 25.—Before we can properly investigate the meaning of the word "house." we must ascertain the object of the Public Health Act generally and of this section (25) in particular. (Max. 95) (*j* 4).

When our legislators passed the Public Health Acts of 1848 and 1875, England had just been visited with a scourge, terrible though well deserved, on account of her sanitary sins. The horrible way in which the people lived can be read in the reports of the debates, and in histories of the time.

An efficient Public Health Act must be to some extent a private health act, for private uncleanliness and disease lead to public epidemics, and thus we have public and private sanitation alike provided for in the Acts.

Public nuisances are dealt with in the sections as to nuisances and also by the common law, and so there is no reason for straining section 25 so as to make it apply to them. The public is well able to defend itself.

A private nuisance, however, is not so easily touched, for private people, such as tenants and shop assistants, would prefer any disease to that worst of complaints a lawsuit. They could sometimes sue for breach of the contract of lease or service, but, as they never would, the law wisely puts matters into higher and wiser hands by the sections.

We may go further and say that one would expect special attention to be given by the Legislature to indoor places (see *Baker's*, *Blashill's*, and *Bennett's* cases, *post*)—*i.e.* places with walls and a roof and door, since smells and bad drains are comparatively harmless in the open air. Also that the fact that human beings (for the Act is not an Animals' Act) spend some hours in the atmosphere of such a place, and do not merely go in and out (like a labourer who goes into a pigsty to feed the pigs), but stay long enough to need conveniences, and therefore drains, would call for special interference by the State. So would the fact that it was habitually, and not merely temporarily or on some particular occasions, used as a place in which to spend such hours—*i.e.* that it was of a permanent nature, not merely a temporary shanty, or a building only used at a fair. Merely private nuisances not necessarily in "houses" are dealt with by the Act elsewhere, for some of the "nuisances" defined and punished by the P.H.A. are private nuisances, so we need not be at all surprised if we find that section 25 is confined exclusively to these last cases where the occcupation is human, indoor, many-houred, and habitual.

And this is just what we do find on reading the section, and considering the cases of *Baker* v. *Portsmouth* (L. R. 3 Ex. D. 4); *Blashill* v. *Chambers* (L. R. 14 Ch. 484, *per* Grove, J.), and *Bennett* v. *Harding*, quoted later (par. 17).

It is true that an undrained sty or byre, an insanitary open-air convenience, or even a dead horse may lead to disease; but are we for that reason to say that the sty or byre or the defunct charger on some private field from which dangerous effluvium arises is a "house"? Not even the English language, as interpreted by a people which pre-eminently has become word-blind, could bear such a strain. If this had been intended, why did not the section say simply "All foul and noxious liquids must be drained." My opinion is borne out by the fact that the Metropolis Management Act, 1855, section 75, uses the wider words "house or building." The framers of the P.H.A. did not see fit to expressly include buildings.

The section was passed (we shall see it had a further object) in order to prevent the enterprising builder from erecting structures which, when the cloud of the surveyor's presence had rolled by, could with a little paper or paint be converted into parlours or bedrooms and in which "stained-glass windows" are, as Thackeray tells us, "a substitute for drains," and was designed to foil him when he thus would catch in his insanitary toils the homeless wanderer with his vagrant furniture and perhaps "a large wife and family" on a bleak November day. For these same inmates well-ventilated rooms are similarly secured under the sections which allow by-laws to be made.

But is this all? Are we still further to narrow the word to sleeping-places? What about shop assistants in an insanitary shop, or performers and audiences in an undrained theatre? A shopman, in spite of "St. Lubbock," often lives longer in his shop than in his house. One knows that many people sleep with their mouths open and their windows shut; but is a man so very much less at the mercy of bad drains by day than he is by night, that we are entitled to limit the section so as to exclude diurnal occupiers from its protection? Typhoid germs do not sleep in the daytime. We have seen that a shop *may* be a house in popular parlance, and later we shall see that in our case it *is*. To make a learned pun, provided the inhabitancy is *diuturna* (for a long period, *i.e.* for some hours) it may be only *diurna* (during the day).

10. Analogous Cases on particular Meaning of "House."—Now we will consider a few cases in which the word "house" has been stretched and squeezed in the interpretation of other Acts, in order to see how far we dare contort it in construing the section. A word is like a chameleon, and takes its colour from the context and the mind of the speaker. Thus, if a statute breathes out threatenings of death on those guilty of "piracy" you know that the gentle borrower of other people's ideas is not in danger of the hangman's noose. We must, therefore, take the cases that I shall allude to for what they are worth. Cases on voting, poor rates, burglary, arson, removal of house refuse, and Market Acts, &c., I dismiss at once as misleading (*a*). There are, however, other decisions as to Church rates on houses, and nuisance from an overcrowded house. These, with *Bennett* v. *Harding* (*infra*), show how the purpose of the section must be considered. Then we find decisions as to Inhabited "House" Duty, which, in spite of a case as to Improvement Rates, show that *diurnal* occupation is sufficient. Then there is a case as to paving expenses, which shows that human habitation alone can make a "house," and also that an ecclesiastical or statutory prohibition of residence can prevent a building from becoming a "house" in spite of the contrary doctrine in the matter of Building Lines. A Conveyancing case shows that diurnal abode can make a house, and is explained away so far as it seems to say that non-human abode can do so. Certain cases as the word "building" show *a fortiori* how the word house must be narrowed.

I remind the reader of my remarks at the outset that the section only deals with houses by plan so far as erecting or rebuilding is concerned (*see* par. 3).

There is then a case as to Church rates, which under a London Act were levied on "houses" there, so that the people who were married or buried in a parish should pay for the pleasure. Thus, Covent Garden Theatre, though the scene of many stage deaths, did not *need* the sexton, for no one lived there, and for this reason, among others, it was held not to be a "house" (*Surnam* v. *Darley*, 1845, 14 M. & W. 141). The theatre did not need a gravedigger, but it might need a drain-digger.

The case of *R.* v. *Mead*, 11 T.L.R. 242, is also instructive on general grounds. The philanthropic defendant was held guilty of nuisance under section 91 of our Act for allowing a chapel to be overcrowded during the night. There was no sleeping accommodation, except pews, in the chapel, and yet it was held to be an overcrowded "house." Justice Wills said: "It would be lamentable if it were not so, for then the sort of building to which the *mischief* of the Act *most applied* would be excluded from its operation" (same considerations in *Bennett* v. *Harding*, *post*, par. 17). For all this I do not think a pigsty inhabited by tramps need be deemed under section 25.

When *inhabited house duty* was the question, the Court included a bank (1881, *Chapman* v. *Royal Bank of Scotland*, 7 Q.B.D. 136) and a block of business premises (*A.-G.* v. *Mutual, &c.*, 1876, 1 Ex. D. 469) (*contra*, in ordinary parlance Brett, L.J., in *Yorks I. Co.* v. *Clayton*, 1881, 8 Q.B.D. at 425), all of which were deserted by night. The Judges decided thus in spite of the fact that where an Act mulcts the nation in taxes the Courts will not usually help the Legislature by stretching words (Max.). The Court, therefore, must have thought this to be no stretch of language at all. *Grant* v. *Langston* has already been alluded to.

Yet in *Hole* v. *Milton* (31 J.P. 804) it was decided that business premises are not "houses" for *improvement rates*. Here, you see, the Judges would not stretch the word so as to include buildings which equally with houses gained by the improvements. ("Business premises are not houses, but if a man sleep in his shop it is.") Would they be as unyielding in our case and refuse to secure sanitation to something not clearly a house by broadening the meaning of the word?

Then, as to those dear familiar *paving expenses*, it was held that the Legislature intended that those who gained should pay and that the whole frontage should be exhausted, and yet cowhouses and cartsheds were held not to be "houses" (*Wright* v. *Ingle* (1885), 16 Q.B.D. 379). Here though, paving expenses not being penal, the construction might be liberal, *a fortiori* they are not such under our section.

Still more curiously, where prohibition against dwelling was stamped on a building by ecclesiastical law, church where persons are forbidden to sleep (at least in beds), (*b*), as in the case of an Anglican consecrated (*Angell* v. *Paddington*, 3 Q.B. 714; *contra*, is not such, *Wright* v. *Ingle*, *Caiger* v. *St. Mary*, *Islington*, 50 L.J., M.C. 59 ?) or by statute law, as in other cases, such buildings were held not to be houses, although in many cases they would be the greatest gainers when the pavement was laid. (If the prohibition is stamped only on the owners or trustees, as in the case of schools under the School Sites Acts, this does not apply, and, anyhow, by the definition clause schools are houses *when so used* (*c*)).

On the other hand, in the case of building lines (under a local Act) a church was held to be a house, as a too prominent church, though a useful reminder to the passers-by, would equally with a dwelling-house obstruct the air of a street (*Folkestone* v. *Woodward*, 15 Eq. 159), and thus frustrate one of the great objects (*Leicester* v. *Brown*, 62 L.J., M.C. 24) of such restriction. Here, therefore, we find the word stretched to serve the object of the Act. Would the Judges say that, in order to carry out section 25, a church must have drains? (*c*) Cases, like the above, as to building lines are distinguishable; they considered the outside of the building and its obstructiveness, ours considers the inside and its sanitary needs.

It remains for us to consider a Land Clauses or Conveyancing case. In *Richards* v. *Swansea* (9 Ch. D. 425) it was held that in conveyancer's language a house might include a shop, workshop, *storehouse*, or hospital (pp. 432 and 438), though in the ordinary sense the word meant dwelling-house (we are not told that the storehouse may be one unoccupied by *man* by day) (p. 434). The above case was on the Land Clauses Acts as to compulsory purchase, but then these are construed in the same way as Conveyances as to the meaning of this word. The Conveyancer's meaning, however, is not blindly to be adopted in interpreting the Public Health Act, as Lord Esher warns us in the Shoreditch flats case (*see* Lect. 2 as to Origin test of "sewers," and Max. 77–78). He tells us the purpose of the Act must be considered, and so I think that only so far as a building resembles a dwelling-house in being structurally planned for continuous, though only diurnal *human* occupation, is it a "house."

This exhausts our list of cases as to "houses," but certain cases as to "buildings" may be of use in *a fortiori* excluding certain structures from the category of houses. Even inhabited erections, if not permanent, do not come under a by-law as to structure of "buildings" (*Fielding* v. *Rhyl*, 3 C.P.D., 272). So in our case who would require a permanent drain for a temporary shanty?

Again, structures which have not walls (*Slaughter* v. *Sunderland*, 60 L.J., M.C. 91 [structure]; *Gery* v. *Black Lion*, 55 J.P. 711 [prohibition]) and size sufficient to admit of a man moving about inside them (*Leicester* v. *Brown*, 62 L.J., M.C. 22 [building line prohibition] and a case in 5 T.L.R. 254 [structure]) are not "buildings." As to walls and size the argument is all the stronger, because the absence of these characteristics decided against a structure being called a "building" in decisions as to negative prohibitions against building, which allow of a broader interpretation to the word than positive provisions as to structure for the benefit of inmates.

11. Summary of Particular Common-law Meaning of Houses (by Plan).—To sum up, then, as to the particular common-law meaning in our section. The Church rates case and the nuisance case and *Baker's*, *Blashills'* and *Bennett's* cases show how the purpose of the section must be considered. The first-mentioned case shows that a theatre *may* be a "house" under the section if it does need drains. Diurnal occupation is sufficient according to House Duty cases and Conveyancing cases in spite of Improvements Rates decisions, and the former are strong, since they deal with matters requiring strict construction. Human occupation alone can make a building a house according to a Paving case, which with other cases shows that (in spite of a contrary decision as to building lines) an Anglican consecrated church can never be a house. Then, again, even "buildings" require permanence and internal capacity and also walls, as cases on that word testify.

Piecing these decisions and the popular meaning together, and viewing them in the light of the purpose of the section given in this lecture (par. 9), and treating *Bennett* v. *Harding* (*infra*) as an *a fortiori* case, we get the meaning given earlier of "houses by plan" (par. 4). Unless our building comes within that meaning, we cannot be punished for erecting it without drains. "Occupying" is another matter, and as to this the definition clause, given later, may extend our liability, as we shall see.

As regards houses by plan, I may append a few illustrations. A domestic stable is not a house, but a livery stable in which the horsekeeper works continuously probably does come under that category. A casual entertainment-room may not be a house, a theatre may be. A professional laundry, so to speak, is a house, but a domestic laundry is not, unless of course it is part of a house. The case of *Willesden Provl. L.C.* v. *Willesden L.B.* (1892, 2 Q.B., 271) does not apply, for there the word house was used as an adjective (see my addendum on Scavenging to previous lecture), and the object of the section was different. A domestic cowbyre is not a house, but a professional cowbyre may be, where people specialise and work there exclusively. An Anglican church is not a house, but any other building for religious worship *may* be, if only it lays itself out for the kind of inhabitancy above defined. If, then, a building on the plan resembles "houses" used as above, it will be a house by plan.

Of course, if any of these buildings are part of a house, then they must be drained. That question I consider later ("House" Part or not). All the above illustrations must be tested by the principles laid down and others may be added.

12. Definition Clause. House = Schools, Factories, and "other Buildings in which," &c.—But now comes out of the surveyor's sleeve the last card—viz. the definition clause. Definition clauses are sometimes taken with a grain of salt (*A.-G.* v. *Worcester* (1846), 15 L.J., Eq. 398; *R.* v. *Cambs.*, 7 A. & E. 491; *Midland R. Co.* v. *Ambergate R. Co.*, 10 Hare, 369; *R.* v. *Pearse*, 5 Q.B.D., 389; Max. 100*a*, *Austerbery* v. *Oldham*, 29 Ch. D. 750), but still it would be best to accept it in full until the Courts give us leave to partially ignore it. According to Section 4 (Definition clause), as altered by the Factory Act 1878, when the context allows the term "house" "includes schools, also factories and other buildings in which persons are employed." I may just remark generally that the popular meaning of "house" will, to a certain extent, modify the definition. It must be something more or less "housy."

13. Definition Clause only widens term "House" in cases of "Occupation" (wrongfully).—Another thing it is still more important to note. The definition can, I think, only extend the meaning of "house" so as to include something not having the structural characteristics of a "house," as described above, where the offence is "occupying," and so henceforth we will confine ourselves to "houses by employment."

14. House (by Employment) = Schools.—First as to "schools" I need say little, except that a cowhouse would not become a "school" merely because farm pupils learnt to milk cows there. There may, however, be places of instruction where trades or employment are the sole curriculum. Are these for that reason not schools? I think they may be if they are in the nature of houses. The case of *Beadon* v. *Parrot*, 1871, L.R., 6 Q.B. 718, does not say that a school-factory is not a school. You will see therefore that whether or not the practical work is manufacture or something like it the building may be a school.

15. House (by Employment) = Factories.—Then as to factories. What number of hands must there be, what kind of work-place, and of what must the work consist?

The *number* of factory hands is immaterial; one *employé* can make a factory (Section 101, Factory Act 1878) or workshop, though, as we shall see, two *employés* are required to make any "other building in which persons are employed."

Then as to the *places* which can be called factories. Whatever the word "manufactory" may mean in the Lands Clauses Acts (as in *Richards* v. *Swansea*, 9 Ch. D., 425, per Cotton, L.J., at p. 437, and *contra*, *Salter* v. *M.D.R.*, 9 Eq. 432, and in 63 J.P. *sub* Metropolis on M.B.A. 1894, s. 74 (*e*)), it is clear from two cases that a "*factory*" means a place where the work is mainly carried on in covered buildings with walls (*Kent* v. *Astley*, 1869, 5 Q.B., 19; *Redgrave* v. *Lee*, 1874, 9 Q.B., 363, cases on the Factory Acts). Clearly also under this section (25th), which does not profess or need to protect those who mainly work in the pure open air, the same meaning must be given (and see *Bennett* v. *Harding*, *post*). The above cases are still good law as to the meaning (as regards place where work done) of the word "factory" in our Act in spite of special definition in the Factory Acts. (*Encyc. L.E.* vol. v. "Factories and Workshops" only deals with meaning under those particular Acts.)

But then even if there is a building much depends on the kind of *work done*. It must be manufacture—*i.e.* work increasing the value of the material to a degree out of all proportion to its value before such treatment (see the last two cases). Thus, winning coals or quarrying rocks, shaping roof slates, blending and milling tea, washing a shirt, or picking rags and bones is not manufacture; but making school slates or briquettes, turning rags into paper, or boiling bones for invalids' beef tea would be manufactures, as a thing worth little in itself is thus rendered costly if not valuable. (*Bennington* v. *M.B.W.*, 54 L. T. [N.S.], 837, and perhaps any present or future cases on the London Building Act 1894, s. 74 (2), and *Digest E. C. L.*, vol. viii., 1344. Browne on Compensation.) (*Fullers* v. *Squire* not in point.)

Further, see the definition given in the *Century Dictionary*.

16. House (by Employment) = Other Buildings in which Persons are employed.—So far so good, but then the surveyor will say, "Oh, yes; but your building is a 'building in which persons are employed.'" In this work-a-day world it would be hard to find a building which does not come under this head. The exact words of the section were "House includes schools, also factories and other buildings in which more than twenty persons are employed at one time." Then came the Factory Act, ch. 16, of 1878, which declared in section 101 that the P.H.A. should apply to buildings in which persons are employed, whatever their number may be, in like manner as "it had previously applied to buildings in which more than twenty are employed." These words, however, only apply to factories and workshops. But Section 167, schedule 6, of the same Act repealed the words "more than twenty" and "at one time." The repeal in Section 167 is absolute as to all buildings in which persons are employed, but observe that, according to Section 4, so brought up to date, there must still be more than one person.

Three points arise: (1) As to the number of *employés* who will make a building a "house" (by employment). Whether a son is an *employé*. Whether the *employés* need be the servants of the occupier who is being indicted. (2) As to whether the building will be a house if the employment there is spasmodic and momentary, or if its use as a place of employment is casual or temporary. Also whether journeymen are *employés*. (3) As to what kind of work will make the building a place "where persons are employed."

(1) As regards number of *employés*, it is clear from the definition, as above set out, that, unless there is more than one *employé*, the building does not become a "house." The employer himself would not count (Max. 373 (*d*), 392 (*a*), 470 (*a*), *Re Burdon*, 21 Q.B.D. 24). Suppose he employs his family, then, I think, in spite of embezzlement cases (see *R.* v. *Foulkes*, Stroud's *Judicial Dictionary*, "employed") these are "persons employed." Is a man to kill his workmen with typhoid because they are his own flesh and blood? Again, the employer need not be the occupier, I think. One can imagine cases where the two are distinct. The occupier will be liable.

As to (2) the definition says "are employed," which may fairly be construed as are "habitually and continuously employed." The carman of a warehouse, who has occasion to go into the building to sign delivery-sheets, can hardly be said to be employed there. Nor, I think, is a general factotum who combines the functions of groom, gardener, and butler a "person employed" in a stable. Nevertheless, if horse-cleaning, &c., is a man's special vocation, as in a livery stable, the building he occupies would no doubt come under the Act. I say this with more confidence as the word "house" thus defined must overshadow the words of the definition, and require a degree of "housiness"—*i.e.* that the building should have been designed for continued occupation. The case of *Bennett* v. *Harding* also shows this, though it shows other matters unfavourable to us—viz. that any kind of work would make the worker a "person employed" and the building a "house." I set out all these points in the following digest of this case.

17. Bennett v. Harding.—In *Bennett* v. *Harding*, 16 T.L.R. 445, it was decided that a stable, with its detached stable-yard, came under the Public Health (London) Act 1891, ch. 76, s. 38, subs. 1, which says that every ". . . . factory, workshop, or *work-place*, whether erected before or after the . . . Act, regard being had to the number of persons *employed* or in attendance in such *building*, shall have conveniences." Justice Grantham said the stable and yard were "clearly a 'work-place' devoted to the work of cab-cleaners and horse-keepers within a confined area, and therefore were under Section 38."

Justice Channell said: "If it were necessary," under the usual rule of *ejusdem generis*, "to give to 'work-place' a meaning similar to 'factory and workshop,' the similarity must be in relation to the objects of the Act. The stables were analogous to a factory or workshop in so far as they held numerous persons at work permanently in a confined space" (it was never held that the *cabmen* were persons employed). The Judge goes on to say: "The Act" (*i.e.* the Public Health (London) Act 1891) "is passed for the benefit of persons who, like those employed in factories and workshops, . . . are kept" (at work) . . . "for *long periods*, and are therefore *likely to require the accommodation* of sanitary conveniences. A 'work-place' is a place where some work is perpetually and permanently done. I do not say that the presence of workmen repairing a private house would make it a 'work-place.'"

This case is in point when quoted *for* us, for the objects of the P.H.A. 1875, s. 25, are at least as restricted as those of the Public Health (London) Act 1875 then under discussion, and further, because in our section the word "house" overshadows all, and still more makes it necessary that the work should be almost in the nature of an inhabitancy. So far, therefore, we would have an *a fortiori* case when we pleaded that a building in which the work was not of such a nature was not a house.

Of course *journeymen* are persons employed. It is true that *Bennett* v. *Harding* shows that the employment must be "perpetual and permanent"—*i.e.* continuous, and for a long part of the day in one place. In spite of this, if workmen be taken on by the day, this could make a building a house. Most factories employ by the day. In *Bennett's* case, and in the doctrine I lay down, continuity of employment of a particular man during one day is sufficient to make a building a "house," though others must succeed him so as to make the employment habitual. A cartman, on the other hand, who for twenty years comes into a private shanty once a day to take orders, cannot make that shanty a place where he is employed.

We have thus seen that the employment must not be spasmodic; but, this being granted, need the workman be engaged in *manufacturing* something? Well, in my opinion any employment will make the building "a building in which persons are employed." Of course this view may be the one least favourable to us, or to our client's tenants, when it is sought to prevent or punish "occupying"; and we would wish to argue that "other buildings in which persons are employed" means "other buildings in which persons more or less resembling factory hands are employed"—*i.e.* to make the words equivalent to "workshops." I fear we cannot distinguish *Bennett* v. *Harding*, and must follow it unless (which is unlikely) and until it is overruled (*d*).

I have carefully construed "house" separately, both according to the non-definitionary and the definitionary meanings; for the definition has no interest to us if we are only being brought up for erecting or rebuilding. If *Bennett* v. *Harding* applies, the term "house" includes a livery stable; but not, I think, an ordinary stable.

Any building, then, used for the employment of persons, if that employment is to be continuous there throughout the working time, and not merely a spasmodic running in and out, is, I think, a "house by occupation," although it does not contain the marks of a "house by plan."

18. **Summary.**—We see, then, what are houses by plan or structural design, the erection or rebuilding of which without drains is fineable, and what are houses solely by employment under the definition, the occupation of which or of houses by structural design, unless properly drained, is probably indictable.

We have considered the object of the section in punishing erection although there has been no occupation, and in giving special protection against bad drains to the prospective or actual tenants or servants, &c., in a special class of building (viz. "houses").

Once more be it added that if the building is part of a house (*see* later), though not a house in itself, it must be properly drained.

Further, the whole of the law may be altered by by-laws or local Acts, or by the adoption of the Public Health Acts Amendment Act 1890.

If I am wrong in saying that schools and factories must, in order to render a man fineable for *erecting* them without drains, be "houses by plan," also as above defined, then my statement must be modified by saying that, if a building looks on the plans like a school or a factory, and yet not like a "house by plan," it must have drains. But such a contention seems absurd. At any rate, the words "buildings . . . employed" do not apply to buildings in which no one has yet been employed except the builders, who do not count (*Bennett* v. *Harding*, *ubi supra*).

I may further state that the meaning of the word "house" is a question of law, but whether any particular plans or buildings are "houses" is a question of fact.

House, Part or not.

But then the surveyor may argue or deny that, though the building we deny to be a house is not such in itself, yet it is *part* of a house (*h*). We have to consider the question both as regards what is erected, what is rebuilt, what must drain, and as to what is included under the term "house" from the site of which the 100 feet are measured, for the word "house" occurs four times.

The Courts will lean against any interpretation which would penalise the building owner, but what construction would penalise him? If he is pulling down the detached buildings as well as the house, he will say: "These outhouses, at any rate, are not part of the house, and so are not under Section 25, they at least, therefore, need not drain." If he is only pulling down the dwelling-house, he will say: "These outhouses are part of the house, and therefore the house has been only partly demolished, and Section 25 does not apply at all."

The same word in the same Act may be construed sometimes liberally and sometimes strictly (Max. 401, *b*), but this cannot be done within the limits of one section (*j* 5). I think, therefore, that the Courts would take a middle course in interpreting the word.

Now we shall find three possible cases.

(1) Division by open air, as in the case of detached outbuildings.

(2) Division by walls. And under this head I shall consider if a party wall or a joint privy is part of a house.

(3) Division by floors.

19. **Detached Outbuildings**.—First, as to detached outhouses (*see* note *h*). The *Century Dictionary* says that outbuildings, undetached and *detached* also, are sometimes included and sometimes excluded by the word "house." There are two possible views. One that the outhouses must touch the house, and the other that they must be reasonably near in order to be called part of it. The arguments in favour of the first, or excluding view, are—(i) the use of the words "ground floor." A "floor," according to the *Century Dictionary*, is a "complete section of a building having at least approximately a continuous floor." Now the stable across the yard cannot have a floor continuous with that of the house. The section did not say "ground floors." This cutting down of one word by reference to another is well accepted in law (Max. 42*a*, 45*a*, 108*b*, 126*c*, and see Chaps. 4, 12, 17, and present lecture, par. 21, and note (*j* 3). See also *Redgrave* v. *Hurd*, *ubi supra*, "Factory," "whitewashing a quarry").

(ii) Then, again, we may argue from comparison with other Acts. In the old repealed Public Health Act of 1848, the similar section ran: ". . . for the effectual drainage of such house *and its appurtenances*"; and the Metropolis Management Act 1855, s. 75, added to the words "house or building," "and of its areas, w.c.'s, privies, and offices, if any," and required these to be drained. (These words were not contained at all in the part of the section between "erect" and "ground floor.") Finally the London Sewers Act 1848, chap. 112, s. 46, required drains "for the house or of the enclosures about the same." Plainly in itself the word "house" in the sections just quoted excluded appurtenances, and therefore does so in our section, which is *in pari materia*—*i.e.* on the same subject (note *j*). Our Act carefully leaves out the words "appurtenances, offices, &c., &c.," thus showing that it intended only the main house to require drains. It is the omission of these words which has caused all the trouble.

(iii) Lastly, if a house includes outhouses (even near ones), it would be too easy to evade and nullify the section by leaving outhouses standing, and then saying the house had not been pulled down.

On the whole, then, I favour the theory that the outhouses must at least touch the house, for it has, as we have seen, the effect of supporting the intention (*j* 4), and also respects the language of the section.

The other theory, and in my opinion not such a safe one (I may say that they are both my own, and must be accepted, if at all, according to reason rather than on authority), is that the propinquity of the outhouses and the consequent danger of their foulness to the inmates of the house is the criterion. Whether this be true or not, it is at least truer than that all outhouses, however distant, are included.

I test this second view with a few cases [given in note (*g*)], to see on what principle and how far we should exclude the more distant outhouses. The principle will apply at least *a fortiori* to the first view, which excludes all outhouses. The cases deal with Lands Clauses, Conveyancing, Gun Licences, Improvement Rates, Meaning of "Sewer" and "Drain," Burglary and Arson, Cemeteries' clauses. Some other cases are alluded to as irrelevant.

There are, then, three reasons for considering that at least distant outhouses are excluded. (1) The authority of the Lands Clauses cases; (2) the burglary cases which considered propinquity of danger; (3) the harshness of holding otherwise.

I once more repeat that, for reasons given earlier (par. 19), I believe all outhouses not structurally attached to the house are excluded. I state both views, as I do not like to dogmatise in the absence of clear authority. You will observe that I have always spoken of w.c.'s. An earth-closet need not drain, but, be it remembered that the authority may be able to change an earth-closet into a w.c. So much, then, for division by intervening air.

Division by Side Walls.—The next question is, how far do walls sever a house into two; and also, is a party-wall part of the house? The question will arise, *e.g.*, when we are only pulling down one of two semi-detached villas or part of a big block. Can we say that we have only pulled down part of a house? Again, if a stable or w.c.

adjoins a house or sitting or sleeping rooms, is it part of them so that all are a house, and its bad drains are their bad drains, and being, therefore, bad drains from a "house," are punishable under the section?

The *New English Dictionary* gives as meaning (b) of House, "The portion of a building consisting of one or more rooms inhabited by one tenant or family (especially in Scotland.)" In my previous lecture we considered a number of cases on all kinds of Acts; of these the *St. Martin's* v. *Bird* (p. 374 Vol. VIII. JOURNAL R.I.B.A.), and *Harvie* v. *S.W.R.* (p. 375) alone deal with severance by walls. *St. Martin's* v. *Bird* (1895, 1 Q.B. 428) shows that the buildings along an arcade are separate buildings. *A fortiori* they are separate "houses" (*Hedley* v. *Webb*). And in *Harvie* v. *S.D.R.*, 32 L. T. 1, and 23 W.R. 202, even where two houses had open communication between rafters and top ceilings with trapdoors into the houses, and though the pulling down of one rendered the other uninhabitable owing to the thinness of the dividing wall, the houses were not one, but two when separately occupied. On that occasion we decided that for the purpose of defining "drain" and "sewer" (*inter alia*) private communication and mutual necessity unite two "buildings," while separate occupation tends to divide them (*h*).

Although we have learnt since then from the case of *Hedley* v. *Webb* (1901, 2 Ch. 127) that a pair of semi-detached villas separately occupied may be "one *building*" for the purpose of defining the word "drain," that case also tells us that they may be "two *houses*," which latter admission is all that concerns us. *Grant* v. *Langston, ubi infra*, also seems to distinguish between one building and one house. *A fortiori* the houses in an arcade are separate houses, and decisions which sever when the question is as to "one or more buildings," do so *a fortiori* when the question is "one or more houses," or "house or part or not part" of one.

Another case on Conveyancing (*Rogers* v. *Hosegood*, 1900, 2 Ch. 388), which I quote mainly because it is recent, tells us that a large block of flats is not "one house" for the purpose of a restrictive covenant. This looks like a contradiction of the *Shoreditch* "apartments" case (*Pilbrow* v. *St. Leonard's*). Both cases, however, are more or less distinguishable. In Rogers's case it was clear that to allow the block of flats would be totally against the spirit of the covenant. In the Shoreditch case the question was "one building," and not, as here, "one house."

In the Inhabited House Duty cases ((*h*) β 2), where the word is construed in its ordinary sense, a separate entrance and staircase are necessary in order to make one building into two (*Grant* v. *Langston*, 1900, A.C. 383). Private internal communication between a bank and the manager's house next door was held to make the houses one in *London and Westminster Bank* v. *Smith*, and reported 15th February last in vol. 85 of the *Law Times*, p. 747. This case cites *Grant* v. *Langston* as a leading case. In the Inhabited House Duty cases the reader must avoid being confused by the question as to "divided into tenements," which has nothing to do with our case. I only quote *Grant* v. *Langston* since it alone is valuable. The Judges give no reasons from the object of the Act for either lumping premises into one "house" or dividing them into many. The cases are *Yorkshire Insurance Co.* v. *Chapman; A. G.* v. *Westminster; Grant* v. *Langston; Bank of India* v. *Wilson.* (See also *Gordon* v. *St. Mary Abbott's, Kensington*, 1894, 2 Q.B. 742, and see p. 774 as to "owner.") I need not again give a list of classes of other cases which do not help us; those in my previous list (note *i*) are useless here. Burglary and arson cases are also silent as to this question. The old burglary case of *Evans* v. *Finch* never really said that the whole of the Temple was one house.

To sum up, then—to show that one attached building is not part of another—we must have (*h* β and δ) (i) separate occupation; (ii) separate entrances and absence of practicable and usual means of private communication (external or internal), *i.e.* of access without crossing alien property. Two semi-detached villas are two "*houses*."

As to the party-wall, it is true that in *Knight* v. *Corbett*, 1902, 1 K.B. 35, a party-wall was held to be part of a house which had otherwise been pulled down below 30 feet when a workman broke his neck, and so his widow recovered compensation. But this case is quite distinguishable. In the Compensation Act there in question the object was that big thirty-foot contractors, *i.e.* masters who did work involving a building which at any time of the operations was thirty feet high, should be and continue liable until the work was demolished, not merely below thirty feet, but entirely, because they were such important men. *Noblesse oblige.* The Court therefore did not wish to say that the whole house had been pulled down below thirty feet when the party-wall remained above that height. To do this would be to let the big operator evade the Act. The object of our section is to secure drainage for new or rebuilt houses; but if a party-wall which cannot be pulled down is part of the house, a rebuilt house which forms part of a block, and the odours from which would for that reason be the more dangerous, never need drain under this section. Here also the object of the Act must be carried out.

Then again, since a common necessity, such as a common coal-hole, could not, as I said in my last lecture, unite two buildings [Vol. VIII. JOURNAL R.I.B.A., p. 373, col. 1, bottom], I feel clear that it could not unite two houses. I may say, therefore, that a party-wall, even if a neighbour have no ownership but only a right of support and shelter from it, is part of neither house, but has independent existence of its own. The same applies to a common privy or any other joint or party building.

21. Division by Floors.—The next question is horizontal division—*i.e.* does a floor sever, as in the case of a flat, and make each storey one house? Well, even if the entrances are separate, how can it do so in this section, which shows that only houses with ground floors are contemplated, and therefore that a flat without a ground floor is no more a house than a head without a body is a man. (For principle of cutting down words by reference, see Max. 42*a*, 43*a*, 45*a*, 108*b*, 126*c*, and see Chaps. 4, 12, 17, and *Redgrave* v. *Hurd* (pars. 12, 19), and for an exactly analogous case see *Robertson* v. *Greenock*, 21 Sc. L. R. 215. Many flats have only about a square yard of ground floor. One might as well speak of pulling down a balloon to the ground floor because it was anchored to the earth with a rope. If this is so, we need not consider the Inhabited House Duty or any of the other cases. Still, the fact that a house is partly suspended above another will not prevent it from being a separate house, provided it has a ground floor worth considering, and is otherwise held not to be part of the house which it partly overhangs. (As to this last matter my remarks and summary as to division by walls, *ante* (par. 20), must be considered.)

Summary as to what is part of House.—To sum up, then, as to what is part of house. Intervening open space (even, I think, though trifling) severs. Intervening walls do not, unless the neighbouring house is separately occupied and only accessible over alien land. Neither do intervening floors, though they will not prevent severance if an overlapping building really has a ground floor and is otherwise severed. (See generally *h*.)

I may add here as to all these cases of division, whether fair walls or floors, that it will not necessarily make one house two, that one was bought or built before the other (*St. Thomas's Hospital* case), or is held on a different lease from the other (*Siegenberg* v. *M.D.R.* 49 L. T. (N.S.) 554), or is described in some conveyance as distinct (*Kerford* v. *Seacombe*, 57 L. J., Ch. 270), nor will it unite two distinct houses because in title-deeds, &c., they are described as one (*ibid.*).

Notes.

Notes (*a* to *f*) **as to whether "house or not" (par. 1 to 18).**

Notes (*g* to *i*) **as to what is part of house (from after par. 18 to 21).**

Note (*j*) **(general application).**

(*a*) *Irrelevant Cases on "House"* (*see* par. 10).

Voting Cases.—*Nunn* v. *Denton*, 14 L. J., C.P. 43 and *Daniel* v. *Coulsting*, *ibid.* 70. The qualification was occupancy of "house or land," and it was merely red-tapeism which troubled under what head the voter claimed. Occupancy and residence were required, but he could reside elsewhere than at the "house" for which he claimed the franchise in order to get a vote. *Poor Rates Cases.*—Any property made a man eligible to pay rates, even a pump, so the question of house or not was not a serious one. *Burglary and Arson Cases.*—The place protected was a "dwelling-house," so these are not in point. *House Refuse Case.*—The Willesden case is not in point, as the word "house" was used as an adjective (*see post*). *Markets Acts Cases.*—The Acts forbade sales except in shops and "dwelling-houses." Therefore irrelevant. *Case as to Foundations.*—*Poplar* v. *K.*, 28 L. J., M.C. 37 very special. *Case as to Qualification for Commissionership.*—*Lawson* v. *Fraser*, 8 L.R. Ir. 55, perhaps not so irrelevant. Held that a house which was originally a dwelling-house and was still slept in occasionally made the candidate a "householder." Plainly it was a house by plan, so that the case does not contradict us. *Building lines*, "house or building," *Robertson* v. *Greenock*, 21 Sc. L.R. 308. "A house need only have four walls and a roof" for building lines, but "generally means a habitation."

(*b*) *Churches not Houses*, and *see* note (*e*) (*see* par. 10).—The prohibition against residence must be stamped on the premises, and not merely on the owners, as in the case of schools under the Schools' Sites Acts. *Bowditch*, 6 Q.B. 567; *London School Bd.*, 1 Q.B.D. 65; *Hornsea U.C.* v. *Smith*, 1897, 1 Ch. 843; *Wright* v. *Ingle*, 16 Q.B.D. 379. Query whether the prohibition against living over a privy might prevent a building from being a "house," where there was nowhere else in the building to sleep or live.

(*c*) *Do Churches need Drains?* (*see* par. 10).—The necessity for drains would arise, if at all, from some detached convenience. As a church is not a house, the detached building cannot be called part of a house, while it is (I think) not a house itself, so that if a remedy is needed it must be sought under another section.

The Ecclesiastical Commissioners cannot, *quâ* their office, defy the local authorities unless the building is not under the P.H.A. (*E.C.* v. *Clerkenwell*, 30 L. J., Ch. 454.)

(*d*) *What kind of employment?* (see par. **17**).—To prove (I think ineffectually) *that buildings where persons are employed means buildings where persons in the nature of factory hands are employed*, the building owner might cite the *ejusdem generis* rule (Max) and the Sabbath-breaking and Labourers' disputes cases as to "person," arguing that the rule must be applied, even if it does create tautology, and that the *Century Dictionary* "Factory" shows that it does not. He would also try to distinguish *Bennett* v. *Harding* on four grounds:—(A) In *Bennett* the rule of *ejusdem generis* could be applied without narrowing the class of *work*. Here it cannot. (B) Read s. 37 and the definition of "houses" in the Public Health (London) Act, 1891. If a workplace is a house, why another section in that Act requiring privies for "workplaces"? (C) "Workshops" mentioned in the latter section (considered in *Bennett* v. *Harding*), and to paraphrase workplace as workshop would have led to tautology. Workshops not mentioned in s. 4, P.H.A. (definition clause). (D) At any rate, the two sections different so as to give Judges an excuse for distinguishing.

Further information on this point has been collected, but is of too technical a nature for a paper not devoted exclusively to law.

(*e*) *Churches not Houses*, *see* note (*b*) and par. **10**.—I grant that one reason why such churches, &c., were held not to be houses was because in the paving section of our Act the word "owners," *i.e.* persons who can let at a rack rent, was used (see Max. 42*a*, 43*a*, 45*a*, 108*b*, 126*c*), but then the word is also used in Section 23, and therefore similarly excludes churches, &c., in that section. Ours is a twin section with section 23, and so the word "house" must mean the same in both sections (Max. 445–448*d*), and therefore churches, &c., are excluded in our section (25th).

(*f*) (See just before par. 19).—Except where the word, when used again, is in a proviso or exception to the clause in which it was first used. It is not so here.

Notes (*g* to *k*) on whether part of house or not (from after end of pars. 18 to 22).

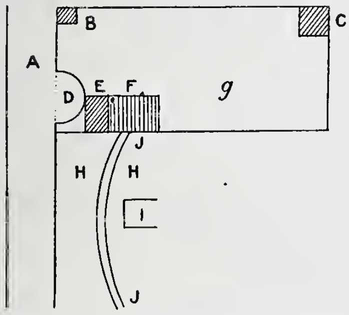
Note (*j*) (of general application).

(*g*) *Cases excluding distant outhouses and showing what will unite two buildings, &c.* (par. 19).

There are cases under the Lands Clauses Acts as to compulsory purchase which justly (on the principle that a man cannot expect an ironmonger to take off part of the price of a kettle because the customer leaves him the spout) enact that a company cannot compulsorily take part of a house, but must buy the whole.

These cases decide that if I have, as shown in the diagram, a dwelling-house with a garden six acres in size (*Grosvenor* v. *The Hampstead R. Co.*, 1 De G. & J. 446, and 26 L. J., Ch. 731; *Howson* v. *L. and S.W.R.C.*, 2 L.T. 369; *Co. Litt.* 56*b*), and a privy at the other end of it (*Dakin* v. *L.N.W. R. Co.*, 3 De G. and Sm. 414, and 13 Jur. 579, quoted by Wood, V.C., in *Grosvenor* case, 26 L. J., Ch. at 734, col. 2, bottom), a forecourt open to the street (*Marson* v. *L. C. and D. Ry.*, 6 Eq. 101), an attached shop and a stable, attached or not (*R.* v. *Swansea*, 9 Ch. D. 425), a detached greenhouse (*Salter* v. *M.D.R.*, 39 L. J., Ch. 569, L. R., 9 Eq. 432), a paddock, over which I cart coals and goods to the house (*Barnes* v. *Southsea*, 27 Ch. D. at 544), and a place across the high road in which I dump my refuse (*Sparrow* v. *Oxford*, 2 De G. M. and G. 94, 21 L. J., Ch. 731, 16 Jur. 703), then all these must be taken as being part of my house (and *see Spackman* v. *G.W.R. Co.*, 1 Jur. (N.S.) 790).

DIAGRAM SHOWING PARTS OF "HOUSE" IN CONVEYANCER'S LANGUAGE.



A, High-road. B, W.C. C, Greenhouse. D, Forecourt. E, Shop. F, House. G, Garden. H H, Paddock. I, Stables. J J, Road over which coals, &c., are carted.

Necessity (*hγ*) to the house is a consideration, and this is why a *domestic* garden is held to be part of it, when a field would not. (*Falkner* v. *Somerset*, 16 Eq. 458, 42 L. J., Ch. 851.) Such necessity may sometimes unite the premises in spite of a dividing road, *e.g.* a public road through a farmyard (*Spackman* v. *G.W.R. Co.*, 1 Jur. (N.S.) Pt. 1, 790), or disproportionate size (*hγα*). (*Barnes* v. *Southsea*, 27 Ch. D. at 544, *ante*.)

On the other hand, a park, and especially a large one, though it has private communication with the house and garden, and is used for cricket and games by the residents of the house, and even though there be a servants' house upon it, is not part of the house (*R.* v. *Wycombe Ry.*, 28 Beav. 104; 29 L. J., Ch. 462; 2 L. T. 107; 6 Jur. (N.S.) 239; *Fergusson* v. *L. B. and S.C. Ry.*, 3 De G. J. and S. 653; 33 L. J., Ch. 29; *Pulling* v. *Oxford*, 33 L. J., Ch. 505; *Steele* v. *M.R.*, L. R., 1 Ch. 275).

The same result will follow in the case of a brewery detached from a house on the same land (*R.* v. *London and G.R.*, 2 De G. and D. 447), or if a *market* garden adjoins a dwelling (*Falkner* v. *Somerset*, 16 Eq. 458, 42 L. J., Ch. 851), for neither park, field, trade brewery, nor market garden are necessary to the house. Of course a paying concern like a brewery would help to keep it up, but that would be rather a far-fetched argument.

If a park or field are excluded, the buildings on it are excluded, and this is what concerns us.

It is largely the distance of the boundary of the park which excludes it, and so here we exclude distant outhouses. It is, therefore, necessity *versus* distance (or disproportionate *size*) and a dividing road or stream, though, as we shall see, these last would not have much severing power (always supposing *all* outhouses not excluded) (*hγ*).

These cases are decided on a more or less liberal construction, and take their authority from decisions or tradition in Conveyancing matters. In one conveyance case an indispensable coalhole severed from the house by a road, was held to be part of it in a will [*Doe* v. *Collins*, 2 T. R. 498]. In a gun licence case (following the conveyancers), an orchard, like the fields and parks in the above cases, was held not to be in the curtilage of the house (*Asquith* v. *Griffin*, 48 J.P. 724). See previous Lecture "On Rights."

The cases on the meanings of "sewer" and "drain" tell us that necessity unites premises; they warn us against following too slavishly the conveyancing classes of cases, but tell us rather to consider the purpose of the Public Health Act (*j* 4) (*Pilbrow* v. *St. Leonard's, Shoreditch*, 1895, 1 Q.B. 33. See last Lecture). They themselves, however, are not much in point, except as to the above principle, for the words of the drain definition are "one building," while the word "house" is used in ours (*Hedley* v. *Webb*, 1901, 2 Ch. 127).

A case on improvement rates (*Hole* v. *Melton*, 31 J.P. 804 (*k*)), tells us that a mill which opened into the same yard as the house was part of the latter. The mill, however, could only be so if it was an adjunct to the house, and incident to its enjoyment, and it did not follow that it was so, because conversely the house was a necessary adjunct to it. It was also said by way of illustrating the severing effects of disproportionate size that if a large market garden opened into a small house, it was not necessarily part of it.

Cases as to burglary at common law (Burglary, *Dig. E. C. L.*, Vol. IV., col. 1163, and Dakins's case *ante*, and *Evans* v. *Finch*, quoted in *A. G.* v. *Mutual*), and arson (*R.* v. *Cooper*, 5 Car. and P. 535), are of use in this connection, for in each case the propinquity to the dwelling-house of the place burglarised or set on fire, and the consequent alarm or danger to the dwellers, was the great element in deciding whether it was part of the house or not. Here it might be argued by analogy that the propinquity of the foul odour must be the test. In these cases, since they were criminal, the construction was strict.

Cases on the Cemeteries Clauses Act (*Wright* v. *Wallasey L.B.*, 18 Q.B.D. 783) show that danger or otherwise to health was considered in deciding this point.

There are numerous classes of cases, to which I allude only to save others the trouble of reading them, for they are useless. They are cases on voting, paving, poor-law settlement, tithes on railway stations, surveyors' fees per building, Market Act monopolies of open-air sales, land stolen by tenant becoming attached to land leased, also on the new Workmen's Compensation Act. (As to these *see* note *i.*) There are other useless cases in which appearance was the criterion—viz. those dealing with building covenants as to value, building lines and building restrictions, contractual or statutory.

The matter was dealt with in *Lord Auckland* v. *Westminster*, L. R., 7 Ch. 597, and *L.C.C.* v. *Pryor*, 1896, 1 Q.B. 469, bottom, in deciding what "site" includes.

I think, then, the Lands Clauses, Conveyancing, Gun Licence, and Improvement Rates cases may be used to exclude, but not to include. They show that distance leads to severance. If the word does include outhouses at all (which I do not think it does), then the burglary and arson cases show that more distant outhouses are excluded, since the test is the danger arising from the effluvia, and therefore the propinquity. The danger (unless we exclude all outhouses) will, I suppose, have to be ascertained as a question of fact, from nearness, probable foulness if undrained, prevailing winds, and the direction in which the outhouse is placed. If an outhouse at a great distance is part of the house, then the section becomes, as we have seen, absurdly harsh as to the 100-feet rule. A road or a stream would probably have little severing effect, for they are no safeguard. Microbes have wings.

Then, again, if distant outhouses are included, great harshness would result. The section says that if a sewer is within 100 feet of the site of the house, the drain must be carried to it. Taking even the narrowest permissible, and I think the true, view of "site" (see par. 83), *i.e.* that it means the ground-plan of the house, if "house" includes outhouses, even when near the house, the existence of some paltry washhouse within the 100-feet limit might require a long drain from a house which was at some distance beyond it.

(*h*) (see pars. 19–22) Cases on whether a building is one or more houses and whether certain premises are part of house or not. Effect of uniting and severing factors.

α. 1. Ring fence unites.

2. Way through premises severs. *St. Thomas's*, *Steeles'* (Lands Clauses cases), *St. Martin's*, *Pilbrow* (cases on "drain" and "sewer"), all pp. 373, 374, last lecture. *Contra*, *Doe* v. *Collins*. *Marson*, 373, last lecture, and *Sparrow* (present lecture, par. 19), all Lands Clauses and Conveyancing cases.

β. 1. Private communication unites (need not be covered or internal). *Richards* v. *Swansea*, *Hewson's* case (in spite of walls dividing); *Hole* v. *Milton* (Improvement Rates), Lands Clauses cases, *see* present lecture (par. 19).

2. Internal or covered communication unites, *Harrie* (Lands Clauses); *Siegenberg* (last lecture); Inhabited House Duty cases, present lecture (par. 20), show one entrance and staircase makes buildings one.

3. Absence of β. 1, severs. *E.g. Asquith* v. *Griffin*; last lecture, 374.

γ. 1. Necessity unites. *Doe* v. *Collins*, *Marson*, *Grosvenor* (Lands Clauses and Conveyancing cases, last lecture, 373). *Pilbrow* ("sewer or drain," last lecture, 374). Also Lands Clauses cases, present lecture, *e.g. Richards* v *Swansea*, *R.* v. *Wycombe*, *Fergusson* v. *L.B.S.C. Ry.*, *Barnes* v. *Southsea* (in spite of disproportionate size); *Kerford* v. *Seacombe*. *Sparrow's* and *Spackman's* cases (through dividing road). Voting cases (question is separate or not separate conveniences, but distinguishable). *Contra*, Kerford (Lauds Clauses cases). (All these cases in present lecture, par. 19.)

2. Disproportionate size or distance severs. *Asquith* v. *Pilbrow* (last lecture), *R.* v. *Wycombe*, *Pulling* (present lecture on Lands Clauses cases), *Hole* v. *Milton* (present lecture (*k*) par. 19). *Contra*, Co. Litt. and *Salter's* case.

δ. 1. United occupation unites.

2. Separate occupation severs, three Lands Clauses cases, *St. Thomas* (373, last lecture), *Harrie and R.* v. *London and Greenwich* (both 375, *ibid.*).

Other cases quoted present lecture (par. 19), Dakin, Lands Clauses, "division by air," *Hedley* v. *Webb*, distinguished (but bears on question of sewer or not sewer in last lecture), *Rogers* v. *Hosegood*.

(*i*) (*see* par. 19 and note (*g*), 4th clause from end). Part of house or not? Are distant outhouses included? List of distinguishable cases often quoted as in point:—*Voting* (*Thompson* v. *Ward*, 6 C.P. 327; *Boon* v. *Howard*, 9 C.P. 277). *Paving* (*R.* v. *Warwickshire*, 17 L.J. (O.S.), 183, but may be referred to). *Poor Law Settlement* (*see Digest E. C. L. sub voc.*). *Tithes on Railway Stations* (*Esdaile's* case, 46 *J.P.* 103, and *see* "house or not"), platform held separate from waiting-rooms. *Surveyor's Fees per Building*) (Question of *trouble*. *Moir* v. *Williams*, 1892, 1 Q.B. 264). *Market Act Monopolies* (*McHole* v. *Davies*, 1 Q.B.D. 59. *Fearon* v. *Mitchell*, 7 Q.B. 690. *Hooper* v. *Kenshole*, 2 Q.B. 127. Sale in house yard illegal as not sale in house, and therefore open-air sale). *Land Stolen by Tenants* accruing to landlord (*see* works on *Landlord and Tenant*, and on *Statute of Limitations*). *Workmen's Compensation Act* (*see* works on this). *Building Covenants as to Value* (*Snow* v. *Whitehead*, 53 L. J., Ch. 885). *Building Lines* (*Robertson* v. *Greenock Police Board*, 21 Scottish L. R. 215). *Building Restrictions Statutes* (*R.* v. *Gregory*, 3 L.J., M.C. 25; *Ashby* v. *Woodthorpe*, 33 L.J., M.C. 68. Also cases on *new building or addition*, *e.g. Meadows* v. *Taylor*, 1890, J.P. 759. *Slaughter* v. *Sunderland*, 55 J.P. 91. *Gery* v. *Black Lion*, 55 J.P. 711 and *n.* 261, and cases on compulsory purchase by local authorities under Michael Angelo Taylor's Act, *e.g. Gordon* v. *St. M.A.K.*, 1894, 2 Q.B. 742. No great help).

(*j*) *Rules of interpretation* and where applied in present lecture. Paragraphs subsequent to par. 21 appear in later issues.

1. Significant omissions. (Max. 105, top, and see references in par. 73. Principle applied in pars. 19, 69, 73, 76, 78, 81, 84 (and *see* 82, end).

2. Restriction of words and powers to scope of Act or part of Act. (Max. 85, 87, and Chap. III., 417*b*, *see* par. 54).

3. Cutting down by reference (pars. 19, 21, *see* references).

4. Mischief that was intended to be remedied considered and purpose of Act carried out. (Max., Chap. II. 95, and also *see* 181*a*, *b*, 292*d*, 311*a*, 323*b* and *c*, 329*c*, 351*b*, 383*b*, 44*a*, 531*d* (*pro* and *con*), *pro* 107*b*, *con* 111, but *Munic. B.S.* v. *Kent*, 9 Ap. C., 273; *Tinkler* v. *Wandsworth*, 27 L. J., Ch. 342 (applied in pars. 3 and 9, 19, and note *g*, par. 82, and note thereon. *See* par. 54).

5. Strict and liberal constructions iu same *statute*. *Finch* v. *Birm.*, 52 L. J. 68, K.B. 17; Max. 401*b* (and *see* before par. **19**).

6. Penal statutes construed strictly, Max. 368, 370*c* (*see* present lecture, where cases as to "house or not" and "house part or not" (*ante*) aud "pulled down" (*post*) considered.

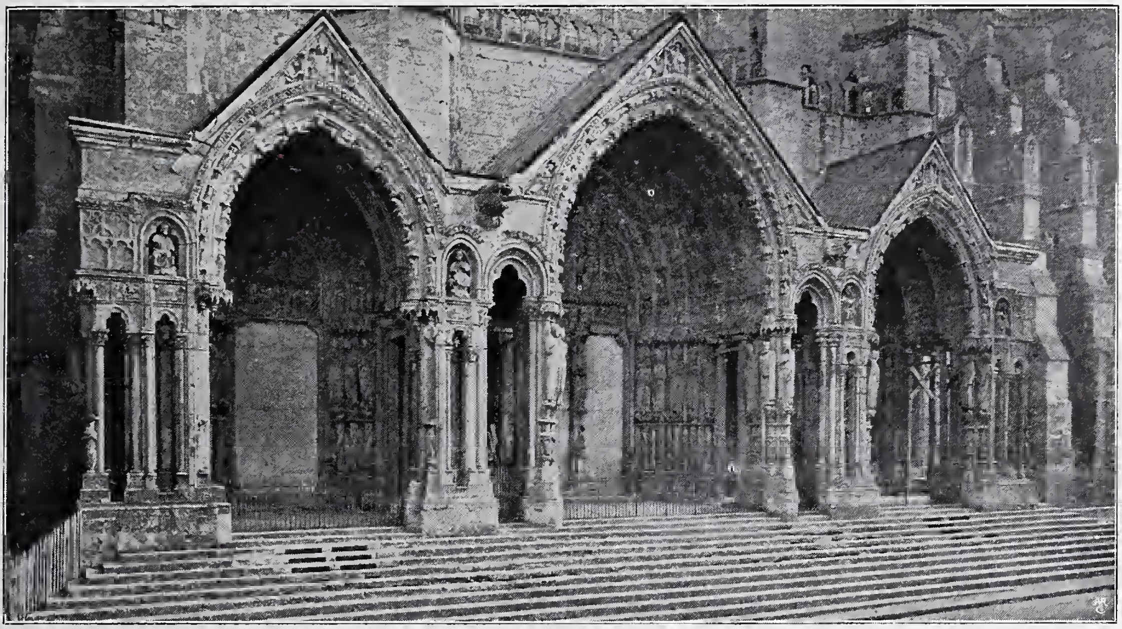
(*k*) (See par. 19.)

Hole v. *Milton*, &c., 31 J.P. 804 (Mill case). Paving rate imposed on all houses within parish. Case for Court.

Held *argo* on appeal. Very wide construction of word "house" in conveyances which are descriptive, as in Lands Clauses. Very different in rating cases. Might include premises incidental to house. Man's business premises not so. Depends on subject-matter—*e.g.* no burglary for breaking into a garden.

Held: Cockburn, J. Pink part included. Business place not necessarily included, because man lives there for busiuess. Anything necessary to employment of house = part of it even for rates. *Watson's Mill* held part, because it *might* be used for purposes of house (Burglary curtilage cases quoted). All the gardens are part. Orchards, paddock, and timber yard not.

Blackburn, J.—Very small house with very large garden. The latter would not be part, especially if market garden. As to Watson's Mill. House and mill gave into a yard and washhouse, and had internal communication with mill. The washhouse is part of house, and mill having internal covered communication is part of washhouse, therefore of house. Does not matter that house put there because mill any more than that man lives over shop at Cheapside because he needs to have *shop* there,



North Portal, Chartres Cathedral.

THE LEARNING OF ARCHITECTURE.—VI.

ROYAL ACADEMY LECTURES, 1902.

By Professor Aitchison, R.A., *Past President, Royal Gold Medallist.*

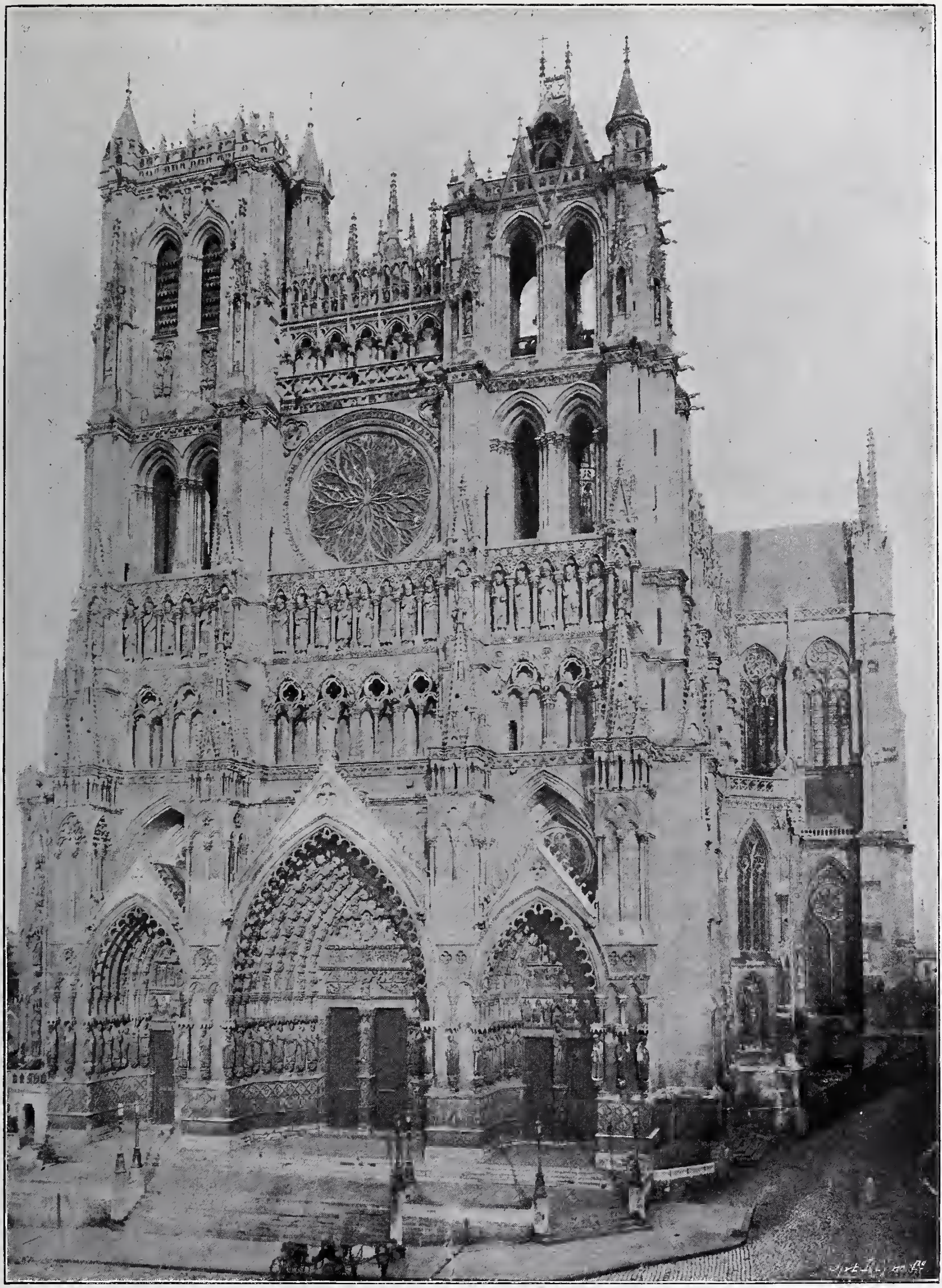
THE lectures I have given you are, on the supposition that some of you are structural poets, and that you will evolve what may be called a new style; and I have only said what characteristics the new style should, in my opinion, take. But to define the form that a new style will take is impossible; one must be a prophet to do that. For example, the poems of Lord Byron not only took England by storm, but the whole civilised world. How could anyone prognosticate what form the works of the next great poet would take? It seems to me that no one could foresee that the poems of Tennyson would not only succeed in captivating the new generation, but would eventually eclipse and discredit Lord Byron's poems, as you may see by Thackeray's remarks. I hope this will make what I mean clear. If there be such a structural poet among you, I beg to hold out to him the glory of such an evolution, not only for himself and for his country, but for the world. He might do for our stagnant art what the Romanesque architects did when they started on the way to Gothic; and Gothic altered continually as it proceeded, till it died out; and the same thing happened to Arabic and Moresque architecture, only Arabic architecture has not, I think, yet died out. Architecture is not like literature, that only requires an outlay for pens, ink, and paper. An architectural monument is a costly creation, which may cost thousands or hundreds of thousands of pounds; and before the greatest genius that ever lived could get any person, and still less any State, to entrust him with the designing and looking after some great public building, he must not only have shown his artistic capacity, which might be done by drawings and models, but also given proof that he could see the work properly carried out; so if he is not a man of fortune he must as soon as possible perfect himself in those arts which are necessary to show his capacity and invention, to get his bread. The Italian architects were not only born with great capacities, but they began to study the art very early, and generally showed their powers when they were little more than children. Niccola Pisano was taken from Pisa by Frederic II. when he was scarcely fifteen and used by him as his architect at Naples, and Michelangelo was but fourteen when he corrected his master's drawing, he being a pupil of Domenico Ghirlandajo.

Filippo Brunelleschi (1377–1444) was a goldsmith, jeweller, and clockmaker, and eventually became a sculptor. Many of you may have seen his casts for the sculpture of the gallery of Florence Cathedral. He sold a small farm, and with the proceeds went with his friend Donatello to see Rome, and to study its buildings; after having spent all his money he supported himself by exercising his old trade of jeweller; and on his return to Florence he got some architectural work to do for great men there. He declared at the meeting of all the celebrated architects of Europe that he could dome the cathedral at Florence without centering, and eventually got the cathedral to do, and domed it without centering; curiously enough, there is nothing left but a sketch of his method. He built the Pazzi Chapel, Santo Spirito, and the Pitti Palace at Florence, and may be looked upon as the re-introducer of Roman architecture.

The next great architect was Leon Battista Alberti (1404–about 1448), who was the Admirable Crichton of his age, for there was apparently nothing then known that he had not mastered. He was employed, it is believed, to make a design for the rebuilding of St. Peter's, in conjunction with Rossellino, for Pope Nicholas V. He is supposed to have designed and carried out the front of Santa Maria Novella and the front of the Rucellai Palace at Florence, to have built the church of S. Andrea at Mantua, and converted the old church of San Francesco at Rimini into a mausoleum for Isotta and the Humanists; and besides his written works in Italian, which helped to form the language, when he became a canon of the cathedral of Stana Maria del Fiore, he wrote treatises in Latin (subsequently translated into Italian) on architecture, painting, and sculpture.

Bramante (1444–1514) was born the same year that Brunelleschi died. He was originally a painter, but must have early shown architectural capacities, for he was greatly employed in Lombardy and by Julius II., as he was working at some of the fortifications in the diocese of Giuliano della Rovere before Julius II. became Pope, and made for him his first design for St. Peter's. He was consulted about the lantern of the cathedral of Milan, did some work at the cathedral of Como, and designed the Cancellaria at Rome, as well as the little church of San Pietro in Montorio, which was considered by his contemporaries to be perfect.

But it will be more to the purpose to speak of some of the earlier architects of genius —Ictinus and Callicrates, the architects of the Parthenon; Ictinus, the architect of the Temple of Apollo at Bassæ; Mnesicles, the architect of the Propylea, and the nameless architects of the Erechtheum and the Choragic monument of Lysikrates; the nameless architects of the Pantheon of Rome and of the Arch of Titus; of Anthemius of Trales, who, with Isidorus of Miletus, designed and carried out the great church of Santa Sofia at Constantinople, and of Isidorus, the nephew of the original Isidorus, who re-domed Santa Sofia after the original dome had been shaken down by an earthquake, and made the versed sine of the dome much greater; and some of the great Gothic architects, who have left monuments the world is proud of, but whose names are forgotten:—all the buildings mentioned have merit, but the Greek ones are models of perfection, not to be copied, but to be compared as a standard with our own buildings. The Italian Renaissance architects mainly revived Roman architecture, but added a grace to it that the Romans hardly attained; and this grace is especially to be seen in Bramante's, Michelangelo's, and Raffael's work.



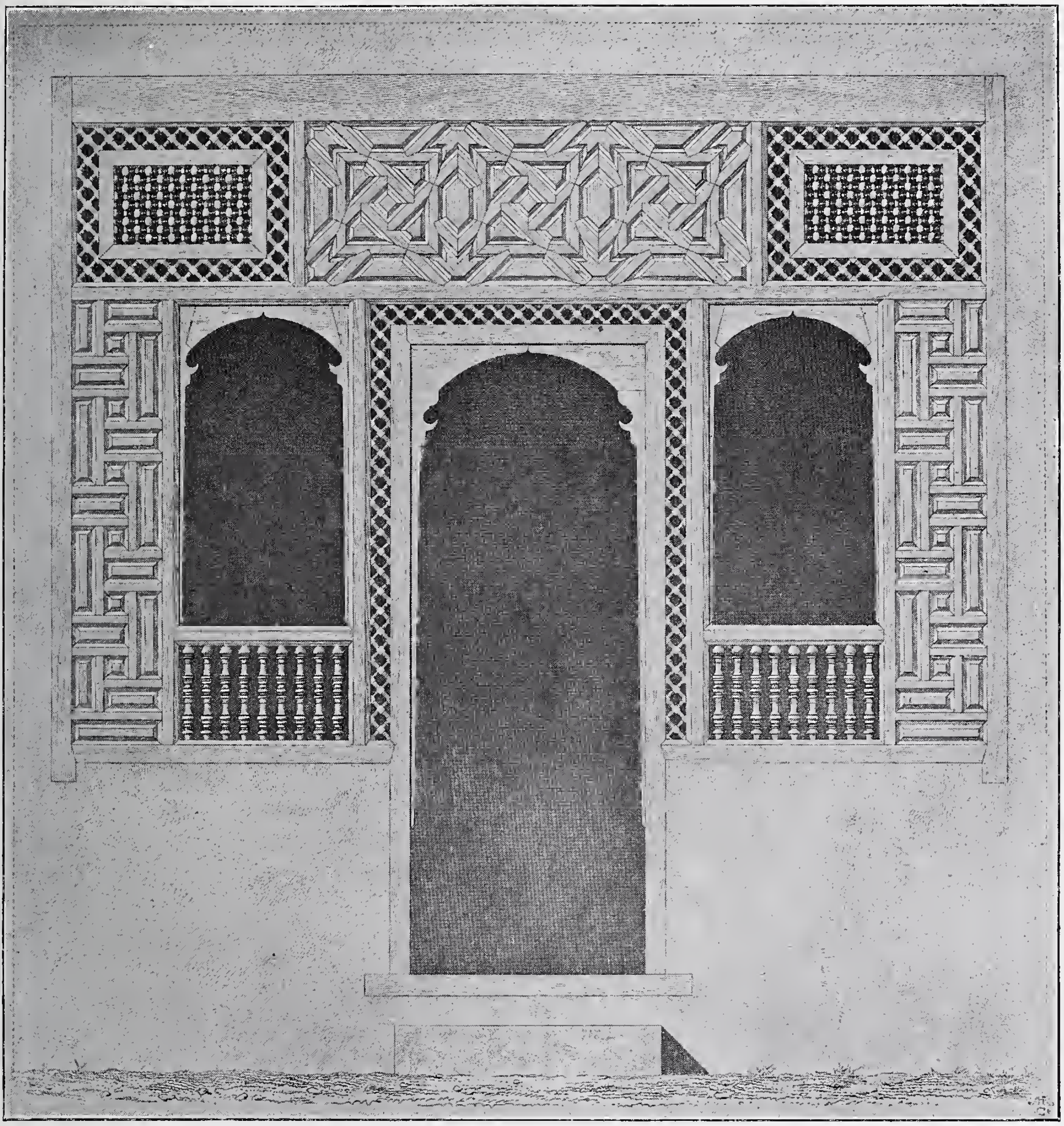
AMIENS CATHEDRAL.

You must remember that architecture is a very ancient fine art, and is a progressive one; but it can only progress when it is undertaken by men of genius who have possessed themselves of all the useful knowledge of their predecessors. You see what strides the engineers have made in construction mainly by the use of the new materials iron and steel, and a thorough knowledge of statics. The engineers are useful, deserving, and praiseworthy men, who supply the commonplace wants of mankind; but the architects seek for forms appropriate to the destination of their buildings, be these sublime, magnificent, dignified, stately, or beautiful; and they have to make the construction sound and stable as well. The people are ordinarily blest with those capacities that are wanted for the existence and well-being of mankind at each particular epoch; but at certain epochs and in certain countries there is a passionate desire to have their buildings made sublime, stately, or beautiful; and this desire for excellence often runs through the whole of the fine arts, poetry, oratory, music, dancing, sculpture, and painting. These are called art epochs. One of these art epochs, and the greatest, came into being at Athens, after the battle of Salamis, mainly in the time of Pericles, and another in the time of Alexander the Great, when Dinocrates rebuilt the Temple of Diana at Ephesus: Isocrates, the orator, lived through the interval. The next great epoch was first from the latter end of the Roman Republic to the death of Tiberius, called the golden age of Roman fine art; and from that date to the death of Caracalla, comprising the silver age. Then there was the great Byzantine epoch, in the days of Justinian. Then the great Romanesque period until the rise of Gothic. Gothic was the most brilliantly original and progressive of any epoch, though a little barbarous. Then came the Renaissance. The superiority of Greek architecture and sculpture over that which just preceded it was astonishing; and so after the discovery of the flying buttress was the rapid development of Gothic and the spread of revived Roman architecture; everyone at the time desired one of these, and men were then born with unusual faculties ready to devote themselves to the arts. The Greeks had conquered the Persians; Europe had thrust back the Saracen conquerors and carried war into the Saracens' country. Let us hope there will be a new passion for noble and beautiful architecture, and that you will be able to supply this want when it comes. At present the only disinterested passion that seems to exist is for the discovery of the laws of nature, and the only other wide-spread passion seems to be for gold.

When I was a student here I sat at the feet of the great Professor Cockerell. He always finished up his course of lectures by giving some advice to the students, and I know at one of the last lectures I attended he told us to be careful to make ourselves capable all round, for whatever merits the style we had chosen might have, we could never be sure that some new or discarded style might not come into fashion, when all our skill and ability in the old style would be thrown away, and we should have to learn the fashionable style—of course, he was then speaking of Gothic. As an example of the truth of this prophecy, I may instance Decimus Burton, who was at one time one of the popular architects. He designed the Athenæum Club and the screen to the Park at Hyde Park Corner; but after the partial resuscitation of Gothic his very name was forgotten by the students of the day. There was a mention of this in his obituary in the *Times*.

What I hope for is a time when styles are only spoken of in antiquarian discourses, that we may have an architecture of our own which solves every problem that comes before us in a better way than has hitherto been done as far as utility goes, and with a character that suits the destination of each building and meets with the admiration of those with cultivated taste—an architecture adorned with beautiful mouldings suited to the climate, and the most perfect sculpture of mankind, animals, foliage, and flowers.

Though I would stimulate the ambition of those students who are structural poets in the bud, I would also mention to those who merely take up architecture as a trade that, as a rule, it is not a lucrative one, and that they will rarely get more than a quarter of the money for their work that they might get by some occupation they are fit for, and that it might be better for them to forsake architecture. I say this both in the interest of architecture and of yourselves. We all want to succeed in life; but what is success? In my opinion it is being occupied in what you love and in having done something to delight and ennoble your fellow-creatures; not to have money, a big house, and to live on stewed meats and choice claret;



SHOP FRONT AT TANTAH, EGYPT. From Bourgoin's *Les Arts Arabes.*

but if you start without the gift of architectural invention I do not think you can acquire it; and, instead of a success, life will be a miserable failure.

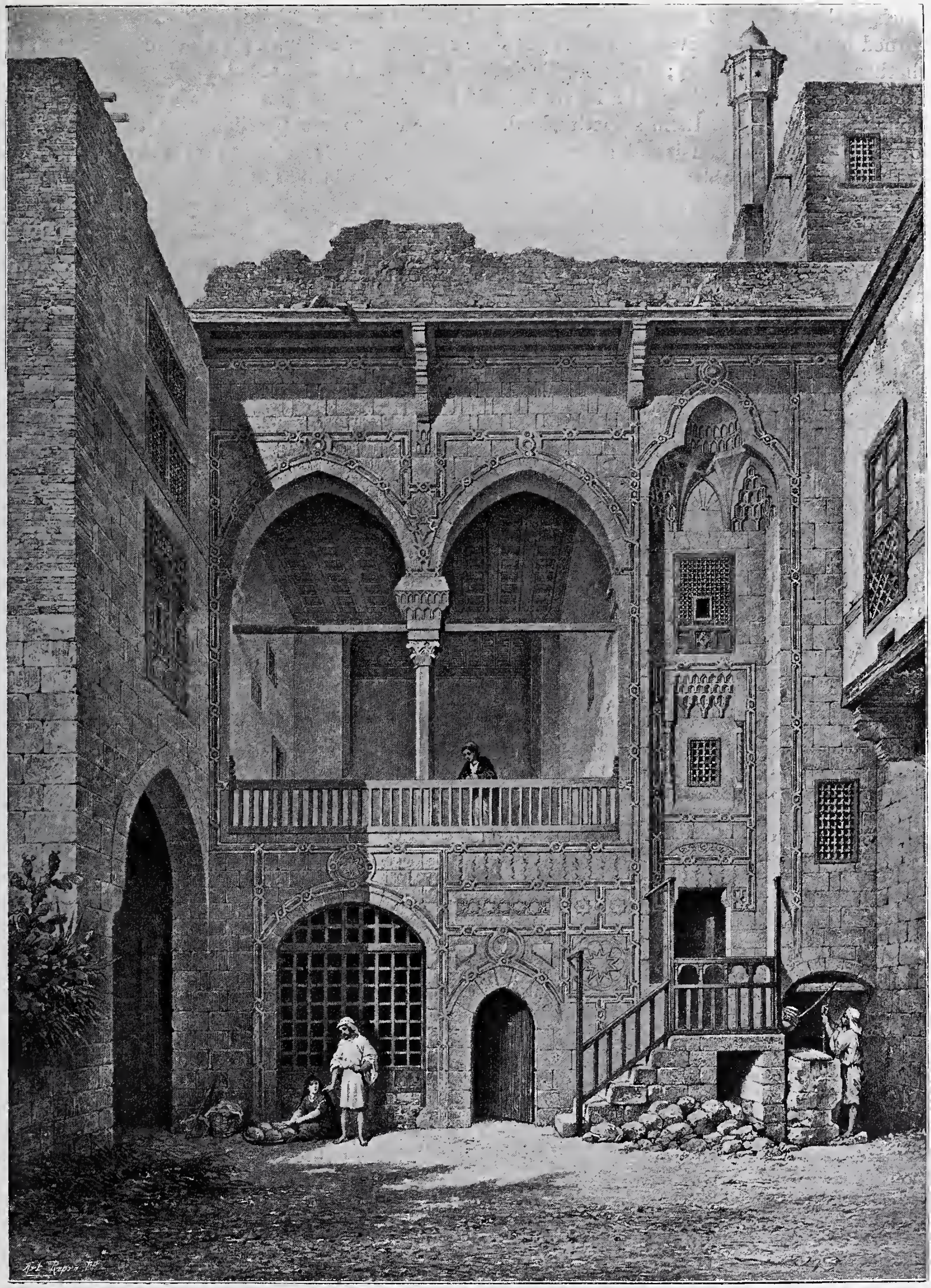
Yet there are some who think themselves bound to follow it, but I cannot believe this to be true. No one can be bound to follow an occupation for which he feels himself unfit, and it should be clear to everyone that unless he has a passion for this transcendental occupation he is unfit for it. Architects have very much to answer for in the view generally taken, that architecture is only like shoeing a horse or mending a kettle, that anyone can learn it if he is diligent, than which nothing can be more untrue. There was no mistaking Fra Giocondo's calling when he would sketch the antique, though he was whipped at his convent for doing so.

There is a craze among certain people for having all the best known styles of past times for their reception rooms—for example, a Louis Quatorze drawing-room, a Louis Quinze boudoir, an Elizabethan dining-room, a hall like the portico of a Greek temple, a Pompeian smoking-room, and a Saracenic billiard-room. This shows the absence of any architecture that charms the people as the Gothic cathedrals did at the time of their building.

There is a good deal of work to be done in patching up ecclesiastical buildings, although it involves forgery, which is generally called "assimilating the influence of a past style," while the style of all architecture should be the best that the time affords. I have seen cases where the face of the sculptured stones has been so destroyed by weather that no trace remained of the sculpture, not even the outline, and its place was being filled by ordinary carvers with scriptural notions of their own. I have seen, too, Romanesque churches with sculpture that had been ruined, replaced by the inventions of men who seemed to be the comic-pipe and umbrella-handle artists of the town. To the ordinary rustics who go to the church one is as good as the other; but all value as a piece of antiquity is lost, and no philosophical deduction as to the civilisation of the time is possible. In some cases, such as a long succession of arcades with canopies, of which one or two at each end are left comparatively perfect, it might possibly be allowable to repeat them, though the Gothic architects rarely made two alike; but where there is hardly a trace left of the original, restoration is pure forgery, and I think the ecclesiastical authorities are in fairness bound to have cut on those parts, or have stated on brass plates, "These parts are modern imitations." Much forgery I dare say has been done by literary men, for Alberti's play of *Philodoxios* deceived Aldus Manutius the younger, who was said to be a good Latinist, and who published it as an original classic in 1588. The *Art of Cookery* by Apicius Cœlius, in Latin, is supposed to have been a forgery of some writer after his death, and passages in Petronius Arbiter are said to have been forged; but no competent critic would take any notice of these except to say they were clumsy forgeries.

Architecture which is worthy of the name would of course be somewhat different from anything that went before, and if it were to be adorned with carving or sculpture it would naturally be of the best which could then be executed, especially if it were in a church or cathedral, for we should hardly expect to get rewarded for presenting to the Deity rubbish that we should not put in our own houses.

In the early part of these lectures I said we might possibly some day learn something of the logic of shapes and ornaments; but this is a hope, not a prophecy. It struck me that probably there was some logical reason for the different sorts of leaves and blossoms of trees and plants, although the leaves act the part of mouths and pores. In sub-tropical countries you see leaves of most extraordinary shapes; some are enormously large and have holes in them, and to my mind this has some logical connection with the wants of the plant; and I once thought it probable that the curious shapes of leaves had an attraction or repulsion for electricity,



BEYT-EL-EMYR. SEVENTEENTH CENTURY. *From Prisse d'Avennes' L'Art Arabe.*

which enabled them to assimilate from the soil food or poison. I was once in hope that some learned botanist at a university might get the professors of chemistry and of electricity to try whether this was a fact; but the Professor I spoke to treated the whole subject with ridicule, and as to the shapes of leaves he said that they were serrated when there was not enough stuff to make them smooth-edged. It seemed to me possible that the leaves and flowers formed some consistent æsthetic problem that might lead us to try a similar method; we think æsthetic problems must have been solved for the benefit of some creature who takes an interest in them, but that creature may be man. We do not know whether any animals but the bee and the butterfly are affected by the colours of flowers. It has been stated that in some of the wildernesses of America, which are covered with azaleas, any new tint or colour more violently attracts the bees than the old ones, and by their being fertilised by the pollen that sticks to the bodies of the bees, some shades of colour, and even the colours themselves, are entirely changed. This admiration of the bees for a new tint or a new colour seems to show that they have some æsthetic liking; but whether grazing animals have any admiration for the flowers about them we do not know, though we may take it for granted that red is obnoxious to bulls from the animosity they show at the sight of it. It is therefore unlikely, if the shapes or the colours of flowers do not affect them, that any trouble would be taken about the æsthetic appearance of plants for their sake. It appears from some of the ornament that has been used by man on his buildings that it was mostly taken from some flower foreshadowing plenty, or from fruit which was used for food—the lotus for example.

Anyone who takes the trouble of observing carefully the colouring of flowers cannot help coming to the conclusion that some of the artifices employed are meant to please some creature rather than to add to the distinctness of the flower; though the part where the honey is secreted is generally made palpable to the insect by a contrasting colour, and this of course saves unnecessary labour to the insect. Perhaps this dissertation has but little interest for the students; but as floral ornament has played a considerable part in the ornamentation of buildings, that seems to be a good reason for paying more attention to the subject than is generally done. As we see from ourselves, the power of evolution in Nature is the most wonderful thing that has ever been brought to our notice, through the untiring efforts of the philosopher Darwin. The philosophers can hardly say whether the first fossil that is supposed to have had life was a vegetable or an animal, but it is this from which the animals sprang, and we from some of them; at any rate it shows that we must have had a long descent. It seems to be considered that it was some kind of sea-slug from which the predecessors of man gradually came: those gill marks that are occasionally found in people's necks seem to show the signs of our descent; and it is a great step from any kind of sea-slug to the highest specimen of man. The animal that appears to have been the ancestor of the horse originally had five toes to each foot; these seem to have completely disappeared in the solid hoof of the present horse. If, according to the latest theory, there is such a power of development in Nature, it is impossible to foresee what development might take place in a thing so wholly produced by man as architecture. As far as antiquarian researches go, all styles that are now found on the globe have not proceeded from one original source; but certainly Gothic, which is the most markedly different, proceeded from Romanesque after the architects had been brought into contact with the Saracens and learnt from them ornamental geometry.

There can be no doubt in my mind that whenever philosophers desire to describe any people of whom nothing has been left but some architecture, they will consider that the architecture of the country, even where it does not contain any writing, gives a fair notion of the degree of civilisation that the people had attained. We have just read about the discovery at Stonehenge, that these stones were worked with flint instruments and a stone mallet, and are supposed to be more than 1,600 years before our era. M. Choisy, in his *History of Architecture*, gives a long account of how monoliths were moved to the place wanted and made to stand upright. Fortunately we have the picture-writing of the Mexicans brought over by Cortez or by some of his companions; he came into the midst of a civilisation in which the bulk of the population were in the Neolithic age, while the governing classes of the nation were of the Bronze age, Cortez and his fellow-warriors being late in the Iron age and using firearms. If Cortez or some of his men had forged some of the Mexican picture-writing, it would hardly have taken in his enemies, and would be almost useless now to show what Mexican picture-writing was like unless it were excellently copied.

However good a living you are able to get by paraphrasing deceased architecture, it will not do much to forward the art, nor can a paraphraser be considered as an original architect; the capacity for developing the old art, which we should now call invention, is not, as far as I know, to be taught.

All that one can do to aid original architecture is to recommend those who feel this stirring of invention within them to try by repeated strivings to develop the forms that we already have into something that is better and more directly appeals to us. Every age has got some desire mostly for the thing that seems necessary to it; for instance, at the present time we want machinery to turn those powers of Nature that we have discovered more completely to our own use, and this is being done; but I see but little desire for anything grand or beautiful, and these are of the things that architecture wants. It may be only necessary for an age with the highest aspirations after beauty to have one poet, the man who can give articulate voice in the direction that every man desires; though the best poets, painters, sculptors, and architects have generally appeared amongst a multitude of competitors. I hardly know enough to say whether the desire of one man for anything, however brilliant he is and however hard he works, will produce what is wanted, but it is essential, whether he be the mouthpiece of a nation or only of a very few, to study, to endeavour, and to strive. It is too ridiculous to suppose that any art will start again fully equipped, like Minerva from Jupiter's brain, or that all the lessons we can learn from the past are to be cast aside; they are to be profoundly studied and the deductions made from them to be used, as I have told you how the poets have searched all past and present poetry to try and find out the reason of their success, and the mode by which it is to be expressed. All that the man of the greatest genius in our art can hope for is to strike the particular chord that will vibrate in the hearts of the present generation after he has learnt all the lore of the great master-builders of the past.

THE FIRST INTERNATIONAL EXHIBITION OF MODERN DECORATIVE ART, TURIN, 1902.

By Cav. William Scott [*A.*].

"*L' Evoluzione dell' Arte nel Passato c' insegna ad essere moderni.*"

THE idea of an Exhibition of Modern Decorative Art emanated from the architectural section of the Artists' Club in Turin early last year. It affords us several surprises, and certainly some disappointments; but its influence on decorative art, in Italy at least, is likely to be considerable—indeed is already being manifested—in spite of persistent prejudices, which proverbially die hard.

The keynote of modernity was struck by the directing Committee in its programme of invitation to exhibitors, and was very properly insisted on throughout, in spite of the protests of those who preferred to continue copying old forms, rather than take the trouble to design new ones upon sound and logical principles. This programme laid down with admirable and quite exceptional clearness the lines it was considered advisable to follow, in order "to avoid a useless duplication of the customary manufacturers' exhibitions"; whilst welcoming all those "artistic manifestations" regarding "the æsthetics of the street, the house, the room, which constitute the three great problems towards which," said the Committee, "we wish to draw the attention of the public." The merits of foreign work were frankly recognised, while the servility with which it is usually copied were deplored. An appeal was made to Italian manufacturers not merely to copy the forms of foreign work, but to penetrate its spirit, making use of logic and simplicity in design. We were reminded that "Beauty should arise in great part from the intelligent application of material to its uses," and were told that "it is time to show by example that beauty should not result from richness of material and profusion of ornament, but from elegance of form, harmony of colour, and perfection of practical execution." Those who have been constantly familiar with even the best of Italian decorative art work during, say, the last twenty years, will recognise that a great step in advance has been taken when, by a responsible representative body, such sentiments are boldly advanced as a guide.

The buildings to be used for the Exhibition were made the subject of a competition, the first and second prizes being awarded respectively to the architects Raimondo D'Aronco and Annibale Rigotti. These gentlemen were requested to cooperate in the production of the definite design, and the result is more than merely satisfactory; it is really successful.

The Cav. D'Aronco has for some years resided in Constantinople, occupying the post of Chief Architect to the Sultan; and if the exuberance of his fully Oriental and fantastic imagination has been toned down by the influence of his partner—whose original design was marked by an almost excessive simplicity—the partnership has been beneficial to the interests of the building. It goes without saying that a liberty, not to say a licence, of experiment was allowable in a purely temporary construction of wood, canvas, and plaster, which might be undesirable, if not impossible, in a permanent structure of stone, brick, or iron; and individual features will find, as usual, individual critics who object to them; but it is something gained to the progress of architectural development to have produced a building so well adapted to the purpose it had to serve, and so comparatively free from the shackles of tradition.

Turning to the various departments of the Exhibition itself, it is only fair to take those of Italy first in order. The general effect is good without being startling; and if there be discoverable in the furniture and decorative objects generally a leaning upon models we have seen elsewhere, we must remember how frankly and loyally foreign influence is acknowledged by the best authorities in the country. It can, in consequence, hardly be said that Italy shows yet a marked individuality of her own in the designs; and in a very large, a far too large, proportion of the exhibits—except some of the very best—the execution leaves not a little to be desired.

The French Section exhibits plenty of the special characteristics of French design. There is a strong tendency to the *bizarre*, and, as it seems to us, a reckless use of curves and excrescences which have no relation to the construction, and no explanation in utility. Of course, as usual, the finish and the execution generally are superb—in the metal-work as in the other branches; and there is a welcome freedom in the treatment of the mouldings, which, however, in many cases adds enormously to the cost, and to demands upon the skill of the workman. There is some very suggestive work in leaded glass, showing how this can be adapted to modern requirements, and yet retain its artistic character under a free treatment.

The *ensemble* of the American Section is pleasing, and some departments, such as the well-known Tiffany glass and metal-work, need no comment; but the show as a whole can hardly be called a fairly representative one, doing justice to the progress which decorative art has of late years made in America. It wears, perhaps, a little too much the air of an ordinary miscellaneous exhibition, varying from personal jewellery to kitchen ranges and baths; but there are charming examples of good and simple bedroom furniture among the exhibits.

The German Section is one of the largest, most thorough, and most important. It leaves an impression of richness not always refined, colour not usually pleasing, and a certain barbaric crudity of design in the larger features, which may be taken to indicate a striving after novelty, but is hardly happy.

Several of the complete rooms are much more satisfactory, especially the bedrooms—some with unstained wood and no mouldings. There is here also some good jewellery, quite modern in design, and reminding one of the best English work. Those responsible for the German Section have grasped better than some others the promoters' idea, and have more thoroughly carried it out. There is less of the bazaar: more of real house construction and furnishing; in short, a greater attempt at decorative work in the broader sense, whatever we may think of its character and results.

In the Austrian Section we experience a genuine surprise. We are struck by the unusual excellence of the design—simple, constructional, well-proportioned, suited to its purpose, and full of the best art-feeling. The execution is practically perfect—leaves nothing to be desired. At the same time the colour schemes, mostly simple, are harmonious and pleasing. Altogether this section is undoubtedly one of the best, and it is with a quite legitimate pride we may note a kinship in the designs with much that for some years past we have been accustomed to see nearer home. In this case at least our influence has been for good.

The Hungarian exhibits also furnish a pleasant surprise. They show a marked originality, good design, excellent workmanship, and a certain fulness and power of colour without gaudiness. While much of the best work is simple in character, there are examples showing rather daring experiments, as unusual as some of the French work, but much more constructional. The jewellery is peculiarly attractive. Perhaps the only really unsatisfactory work shown here is the mosaic; but metal-work, especially copper, is good, and the wall decoration is both carefully designed and well executed. There is a collection of curious pottery with rich colouring, glazes, and lustres.

Holland has sent some simple and very elegant furniture, severe in its lines, and of excellent workmanship. The general effect of this large and varied section is good, though the walls are not satisfactory. There are many examples of simple stuffs in dull but harmonious colouring, and a number of interesting pieces of hand-stained or stencilled linen, showing how an extremely decorative effect can be obtained by means which are within the reach of all. The show of pottery is—as may be imagined—well worth study, the forms being both good and original.

Switzerland is more or less represented, and the Japanese Section attracts a good many visitors; but for us their interest is not absorbing.

Sweden has some charming productions, and furnishes another of our surprises. The best examples are usually the simplest, but an inlaid cabinet of exquisite workmanship is one of the most perfect objects in the whole Exhibition.

It is when we come to the English Section that we are met with a painful disappointment. At least we had a right to expect that it would be fairly representative of what can be, and is being, done in England. It is nothing of the kind, nor did repeated visits succeed in removing the unpleasant conviction that "someone had blundered." Certainly the Italians were generous enough in their allowance of space, and of opportunities for the creation of a really representative show; and it is no secret that the opening of the English Section was looked forward to with great expectations by many of those whose interest in the advancement of decorative art in Italy are most marked, and who are most desirous of profiting by the lessons to be learned. No attempt has been made to show the relation of decorative art to the actual surroundings of our daily life. A clever cabinet here; a charming jewel there; a drawing of one building, a photograph of another; a design for a carpet or a wall-paper, a book-plate or a piece of embroidery—and these scattered about a large, comfortless space—cannot, however excellent in themselves, be fairly said to represent English decorative art of the present day. We may be grateful for the opportunity afforded to us of examining a large collection of drawings, paintings, and designs by Mr. Walter Crane, which show afresh his great versatility and enormous industry; and this work of his occupies two large rooms, each fifteen metres square, out of the three allotted to the English Section; but surely there must have been a sad misapprehension of the scope of the Exhibition, and of the best way of realising it, when mere drawings and designs—projects, in fact—are made to do duty for the objects they are intended to suggest. In no other section has a similar failure occurred; and it is not a little humiliating to see a golden opportunity lost, for reasons not readily explicable. Possibly those responsible for the formation and disposition of the section were determined to hinder the expression of that "commercialism" of which we are often—and but too justly—accused; yet it was not necessary to go to the other extreme, and limit the show to the work of a small set of individuals, and that in mere isolated specimens, without attempting to show what these artists can do with an apartment, or even a single room, as a complete whole. Crude whitewashed walls, staring and offensive red curtains; a few clever drawings hung here, a charming bit of solitary furniture there, but utterly lost in this wilderness of unsympathetic surroundings; some bookbindings, illustrations, or table glass, in a common show-case in the midst of a rough uncarpeted floor; and we have a fair description of the English Section: not flattering to our national pride, not advantageous to our reputation, but literally and absolutely true.

Again, it may not be easy to explain why on other than merely personal grounds there should have been made the unnecessary and invidious distinction between an English and a Scotch section. This latter is certainly better thought out than the former. There is at least some attempt at arranging the various objects in a sort of relation to one another, though it does but confirm the conviction that many of them must be "gey ill to live wi'." We may comfort ourselves with the thought that in execution we can at least hold our own; but, in the face of certain "manifestations" miscalled artistic, it is not yet unnecessary to insist once more on the well-worn truism that eccentricity is *not* synonymous with genius, and that in order to produce a beautiful work it is *not* essential to have taken leave of one's senses.

Bordighera.

THE BRITISH SCHOOL AT ROME.

By R. Phenè Spiers [*F.*], F.S.A.

The British School at Rome, projected in 1899, was opened in the spring of 1901, excellent rooms having been secured for the school in the Palazzo Odescalchi. The first volume of its Papers,* just published, contains two of great interest and value from the archæological point of view, and may be looked upon as a happy augury of future developments. We gather from the prospectus that the School has been modelled on the existing British School at Athens, and is intended as a training ground for students fresh from the universities and other educational institutions—as a centre round which more mature students may group themselves for purposes of systematic research, and as a source of information and advice for visitors desiring to pursue serious studies in Rome.

It is the last clause which suggests the great value which architectural students may now† derive on their visit to the Eternal City, especially if in course of time the new School is able to acquire a good reference library of works specially connected with Rome, so that they may be consulted by them on the spot. We are informed in the prospectus that the excavation of ancient sites, which has formed an important part of the work of the School at Athens, is excluded in Italy by the rules of the Italian Government; but this privilege is extended to the French students of the Villa Medici, and there does not seem to be any reason why the students of the British School should not be placed on the same footing. However, apart from this, there are plenty of buildings aboveground, both Roman and Renaissance, which the English student might measure and delineate, and the Director of the British School would render a valuable service to English travelling students if he were able to obtain for them permission to measure and delineate some of the Roman palaces. It would add also to the value of the Papers of the British School if some of their drawings were published in them. The special training through which the architectural students who visit Rome have already passed might enable them to render some service even to the mature students mentioned in the prospectus, whilst the classical knowledge of the latter would naturally assist the students in the deciphering of inscriptions.

The first volume of the *Papers of the British School at Rome* contains two papers, the first by the Director of the new School, Mr. G. McNeil Rushforth, on S. Maria Antiqua, the ancient church which was revealed some two years ago by the removal of the church of S. Marie Liberatrice and the clearing of the ground behind it. The dedication of the church was settled by the discovery of an inscription in December 1900. The church is first mentioned about the middle of the seventh century, and in the *Liber Pontificalis* it is stated that it was decorated with paintings in the early years of the eighth century by Pope John VII. (705-708). Mr. Rushforth's paper contains the first complete account of the church yet published, and is illustrated with a plan. As the photographs of the paintings are the property of the Italian authorities, and cannot be reproduced until the official account has been published, Mr. Rushforth is able only to give a written description of them, to which we refer the student as a model of painstaking research and inquiry. According to Mr.

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* *Papers of the British School at Rome*, vol. i. Printed for the subscribers and sold on their behalf by Macmillan & Co. London, 1902.

† Already in the sixties there existed in Rome an institution known as the English Academy, but the work to be done there consisted only of studies made from the nude figure. As I have never heard of it since my visit in 1864, it has probably ceased to exist.—R. P. S.

Rushforth, the decoration was the work of Byzantine artists, but, carried out in Rome, has acquired something of a local character in consequence, and is, perhaps, the only complete example existing.

The second paper is on the Classical Topography of the Roman Campagna, by Mr. Thomas Ashby, jun., and is illustrated by a series of plans of some of the great roads leading from Rome, the plans being drawn to a scale sufficiently large to show on them the remains of towns, works, reservoirs, &c., a description of which is given in the text. Although in a sense the paper is published as being the past year's work, it is evident that many years must have been devoted by Mr. Ashby to the researches. The account given has more of an archæological than architectural interest; but in the description of the construction of walls and of architectural features, such as cornices and capitals, an architectural student on the spot might be able to make conjectural restorations of some of the monuments, and, as has already for many years been shown in the drawings sent over by the French students of the Villa Medici, such studies are of considerable value. As we have already observed, this first volume of Papers is of happy augury for the future, and if some of our travelling students are allowed to take part in some of the work done by the new School, it will open out a new field for the Tite and other students.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS 1834
INCORP 1837 1887

9, Conduit Street, London, W., *27th Sept.* 1902.

CHRONICLE.

The Standing Committees.

The following appointments to the Standing Committees of the Institute have been made by the Council under By-law 46:—

Art Committee.—Sir L. Alma Tadema, R.A. [*H.F.*]; Mr. T. Raffles Davison [*H.A.*]; Mr. George Frampton, R.A. [*H.A.*]; Mr. W. Flockhart [*F.*]; Mr. Walter Millard [*A.*].

Literature Committee.—Mr. Francis Bond, M.A. [*H.A.*]; Mr. J. D. Crace [*H.A.*]; Dr. Alex. S. Murray, F.S.A. [*H.A.*]; Colonel Lenox Prendergast [*H.A.*]; Mr. J. Humphreys Jones, B.A. [*A.*].

Practice Committee.—Mr. C. Fitzroy Doll [*F.*]; Mr. Edward Greenop [*A.*]; Mr. Sydney Perks [*A.*]; Mr. A. H. Kersey [*F.*]; Mr. Butler Wilson [*F.*].

Science Committee.—Sir Alexander Binnie, M.Inst.C.E. [*H.A.*]; Mr. F. N. Jackson [*H.A.*]; Mr. J. Fletcher Moulton, K.C., M.P., F.R.S. [*H.A.*]; Mr. Lewis Solomon [*F.*]; Mr. A. T. Walmisley, M.Inst.C.E. [*H.A.*].

The New Liverpool Cathedral.

The executive committee of the Liverpool Cathedral Committee have issued the report of Mr. G. F. Bodley, R.A., and Mr. R. Norman Shaw, R.A., advisory architects, on the designs submitted in the preliminary competition for the proposed Cathedral for the diocese of Liverpool. The report, which the Committee have adopted, is as follows:—

Gentlemen,—Of the great importance of ensuring a fine design for the proposed Cathedral there can be no question. Truro alone in England has had a new Cathedral, the first built for many generations. Truro is but a county town, while Liverpool is one of the largest and most important of our cities.

The new Cathedral must be a stately, a dignified, and a beautiful building. It must be suitable for the services of the English Church, and be capable of holding large congregations. All this is obvious.

The Committee having determined on a competition, it is our duty to select the best designs submitted in this preliminary competition, and then to invite their authors to compete for the great work, in accordance with the regulations that may be laid down for their guidance.

What seems to be necessary is a design having a distinctive character of its own, and one not without originality; a design with a striking unity of effect and idea.

We were prepared to find more designs of a Renaissance or a Classical manner. We were surprised to find so few in those styles, and those, we feel bound to say, not commanding or remarkable. The main body of the best designs sent in are Gothic. This seemed to point to Gothic as the style from which we should find it practical to select. And, indeed, that manner is accepted by most as generally the suitable one, except under special circumstances, for church building. In making a selection there seemed no doubt but that our own English phase of the style should be adhered to.

Many of the designs sent in have plans more or less like numerous fine mediæval Cathedrals, with many chapels clustering round the eastern end of the choir. It is no doubt an arrangement of much beauty. One or two such chapels may be desirable, as being very useful in bringing comparatively small congregations together for early or evening services, but many such chapels would not seem to be appropriate for the use of the English Church. There should certainly be one or two such chapels, but we suppose not more would be needed. Modifications of many of the plans submitted would, therefore, seem to be necessary. How far what we have said on this point should be embodied in the instructions to be given for the final competition we leave to the consideration of the Committee.

We feel that the object of the competition is to enable the Committee to find out the best man for the work.

What he submits may be thoroughly examined and discussed, and, if it seems desirable, may be modified or improved on.

The opportunity, the great opportunity, must not be lost for the erection of a really stately and a beautiful building, one of striking proportions, and of delightful detail. Our old ecclesiastical buildings afford many such examples. Not, indeed, that they should be copied, for Liverpool Cathedral must be an original work of art and have a character of its own—one fitted for the requirements of the present age, and one specially designed for its site. The spirit of our best architecture may, however, well be caught, and its magnificent traditions may be recovered and handed on.

Whatever style is adopted, there should be that nobility of expression, and that refinement of feeling, that is so characteristic of all the best architecture of the great times. We may add that a noble simplicity, enhanced by touches of beauty, is not a thing to be afraid of.

In judging the designs one must take care to discern the real effect that the building would have, and not be led away by any clever delineation of a conception that may not be really good. This is evident, but a first impression given by a clever and beautiful drawing, even though it be of a poor design, may be misleading and deceptive.

We shall look forward with interest and pleasure to the work of reporting to the Committee on the designs to be sent in for the selection of one that may be not unworthy of your important and great city of Liverpool.

There has happily been some revival of taste and knowledge of architecture in recent years, and this new Cathedral should show a dawning sign of that improving state of feeling, and mark the period as one of greater advance towards the beauty and the dignity that characterised the great days of art; and, above all, it should be an example of cultured and religious feeling in church building.

With regard to the plans submitted, we beg to report that we have examined the various portfolios of designs, and all the drawings that were hung on the walls, with great care and with the deepest interest. The number in all is 103; of these, thirty-three are designs prepared expressly for this competition. They represent much labour, and we may also say a considerable amount of talent. Twenty-three are sent as evidence of skill and ability to design a Cathedral, and consist mainly of designs which have been submitted mostly in competition for large churches in different parts of the world.

The remainder are a miscellaneous collection of photographs, drawings, and sketches partly ecclesiastical and partly secular. Though many of them are of much excellence, they do not show any evidence that their authors have any special claim to be considered aspirants for the work of building a cathedral. It is vain to shut one's eyes to the fact that many of the competitors in the last class have taken absolutely no trouble. They have simply sent in a portfolio containing few, or many, photographs or drawings which they happened to have by them, whereas in the cases to which we first referred, where special designs have been prepared, the competitors have, many of them, taken great care and trouble, and have done their best to respond to the invitation of the Committee.

From the plans sent in we have selected five that we consider show their designers to be capable men. They give evidence of considerable knowledge of old work, great care in design, and originality of a sound and practical nature—not the originality which has little aim beyond being eccentric for the sake of being considered original, but which does not regard beauty and fitness as necessary.

These five we suggest should be asked to prepare complete designs for the Cathedral, in accordance with the conditions to be laid down by the Committee.

This seems a small number to name out of such a long list of competitors, but, on the other hand, it may lead to greater efforts being made to conceive and delineate a fine design, and with greater hope on the part of the designer of success, and, for the world, for an ultimate and satisfactory result. These designs are numbered Nos. 20, 45A, 68, 71, 95.

In addition to the above we consider it would be a gracious act, and one that would be appreciated, to nominate a certain number for honourable mention, as a distinct recognition of considerable skill shown sometimes in planning and sometimes in design, though we were unable to award them a still more honourable place. We selected eight—namely, Nos. 17, 37, 41, 44, 45, 46, 84, and 94—for such honourable mention.

We are, Gentlemen, faithfully yours,
G. F. Bodley, R.A.
R. Norman Shaw, R.A.

London: August 1902.

The five architects referred to in the report are:

20. Messrs. Austin & Paley, Lancaster.
45A. C. A. Nicholson, 2 New Square, Lincoln's Inn, London, W.C.
68. G. Gilbert Scott, 40 York Mansions, Battersea Park, London.
71. Malcolm Stark, 11 Little College Street, Westminster, London, S.W.
95. W. J. Tapper, 1 Raymond Buildings, Gray's Inn, London, W.C.

Those honourably mentioned are:

17. Sir Thomas Drew, 22 Clare Street, Dublin.
37. J. Oldrid Scott, 2 Dean's Yard, London, S.W.
41. A. H. Skipworth, 5 Staple Inn, London.
44. H. C. Corlette, 2 New Square, Lincoln's Inn, London, W.C.
45. C. A. Nicholson, 2 New Square, Lincoln's Inn, London, W.C.
46. F. Walley, 1 City Walls, Grey Friars, Chester.
84. James H. Cook, 12 St. George's Crescent, Liverpool.
94. Messrs. Reilly & Peach, Victoria Mansions, 28 Victoria Street, London, S.W.

The Campanile of St. Mark's, Venice.

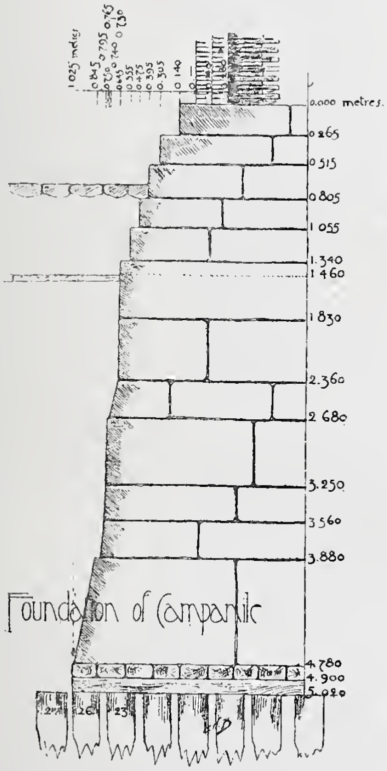
Members interested in the Campanile should read a paper on the subject by Mr. C. H. Blackall, architect, of Boston, U.S.A., which appeared in the *American Architect* for 29th August 1885. The volume is in the Library. Mr. Blackall worked up his subject on the spot, and all that he could learn worth mention of the Campanile, and all that his own careful researches had then brought to light for the first time, will be found detailed in his paper. Mr. Blackall states that he searched in vain through the Venetian libraries for any exact documents relative to the foundations of the structure, and was finally obliged to investigate the tower itself in order to ascertain the conditions under which stability was ensured to it. The necessary permits for excavating were obtained, and a start made at the north-west corner of the Campanile. The excavation was attended with considerable difficulty, the water working through the loose upper soil and causing this to wash down so fast that sheet-piling was necessary. Every morning the pit was found full of water, and at least two men were kept at the pumps all day. This, Mr. Blackall believes, was the first time the

Campanile foundations had ever been thoroughly investigated. The result is now of especial interest, and as his description of the foundations seems to give precisely the information which people are asking for, the following extracts are made from it:—

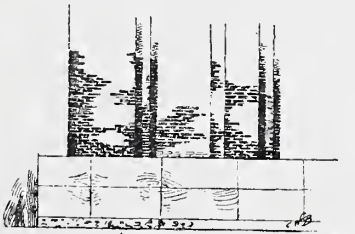
"The accompanying figure [see illustration] shows the actual arrangement of the foundations of the Campanile. The brickwork of the superstructure, it will be seen, rests directly upon five nearly equal courses of roughly-dressed stone, most of which is hard limestone. Three of these courses show above the present level of the piazza, and constitute all of the visible base. Immediately below these courses is a band of red Verona marble, 12 centimetres of which are above the level of the fifteenth-century pavement. The writer is inclined to believe that at one time the upper limestone courses were faced with marble on a line with the lower marble course, thus making a solid base for the Campanile 1·46 metres high, and 64 centimetres wide on top, as shown by the figures here given. This is entirely conjecture, however, as there are no indications of ties or anchors which might have secured such a facing; still a base of this description would add greatly to the appearance of the building, and would be by no means without precedent among just such structures of the same period.

"Below the Verona marble were found three courses of Istrian limestone, followed by two courses of a brownish trachite, with which were used a few blocks of yellow sandstone and yellow trachite. Some of the limestone bore marks which seemed to indicate that the blocks had been taken from some previously existing structure. Indeed, the irregularity of the courses and the diversity of materials employed would lead one to believe that the builders simply utilised whatever material was at hand, without much uniformity of constructive planning. The Istrian stone used is exactly the same in quality as that which the Venetians still employ for foundations: a firm, close-grained material, rather hard to work, and possessing great strength. The masonry of the foundations is all laid in lime mortar of a rather poor quality. The tide-water rises in the ground nearly to the level of the old pavement, hence the work is constantly subjected to the action of salt water. The mortar was found to be much disintegrated, possessing little consistency and crumbling in the hand like hardened mud. The lime for the mortar was apparently made from Istrian limestone of the same quality as that used in the building.

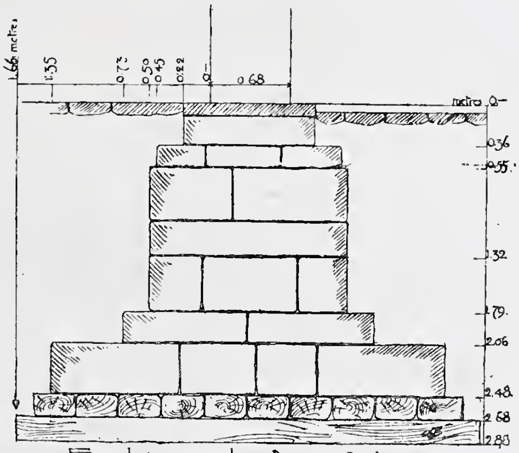
"The lowest course of masonry is of green porphyry. The stone uncovered was a fine specimen, being shot through with small white crystals of feldspar and bits of black mica. Why the builders ever selected porphyry for such a place we do not know: perhaps it was cheaper to rob some old building than to send to the mainland for large



Foundation of Campanile



Possible Base-Course of Campanile



Foundation under Doge's Palace

blocks. The course measures 90 centimetres in height, and the individual stones must be very wide, as there was no vertical joint uncovered in the width of the excavation.

"No attempt was made to ascertain the nature of the foundations under the inner portions of the tower, but it is fair to assume that the masonry is one solid mass. The work uncovered is in well defined courses of different heights, and the blocks are all more or less carefully dressed to a surface.

"The masonry of the foundations was found to rest directly on a platform composed of a double thickness of wooden beams, each 12 centimetres through, placed crosswise over each other. These in turn were borne by the piles, which, so far as could be determined, were driven side by side in continuous rows under the whole of the building. It was of course impossible to find out how long the piles were, but the diameters being on an average 24 centimetres, they probably extended a considerable distance into the heavy black clay composing the soil. The piles seemed to be of oak, and the platform beams of larch, a wood similar to our yellow or hard pine, though all of the woodwork was so thoroughly soaked in water, and blackened with age, that it was difficult to determine very much about it. The platform beams seemed the least well preserved. The wood could be broken off the outside with the hands, though the inside of the pieces was quite firm. The piles did not seem to have deteriorated in the least, but were as sound and tough as sap-wood. Large samples were cut from both piles and platform, but at this writing the water has not sufficiently dried out to say how free they are from rot. It is surprising that the wood has lasted as it has for nearly a thousand years. The water circulates very freely among the timbers, and during the time of making the last metre in depth of excavation, seven men had all they could do to keep the pit clear. The water flowed into the trench only through the timbers of the platform, and was quite clear and salt, showing it came directly from the sea. No wonder under such conditions that the wood should be stained and softened.

"An extra row of piles was found driven just outside of the platform, and entirely free from any direct bearing. That the settlement of the Campanile has been relative rather than absolute is proved by the fact that the tops of this outer row of piles are exactly on a level with the tops of those which bear the platform. This also shows that the slight obliquity of the tower is due not to any failure of the foundations, but rather to the general movement of the earth, for the tip is towards the side at which the excavation was made, and any derangement of the piles could easily have been noted. The weight coming upon this foundation is something tremendous. The bricks of which the superstructure is laid are very large. One of them which was measured was 44 centimetres by 30 centimetres by 7·5 centimetres—about ten times the size of our common bricks. The masonry laid up with them will average about 105 pounds per cubic foot. These bricks are so large that they are made with two holes in the centre, by which the workmen can lift them about. Most of the bricks bear a stamp of some sort, and those who have studied the matter are able to tell pretty closely the date of a building by the stamps on the bricks.

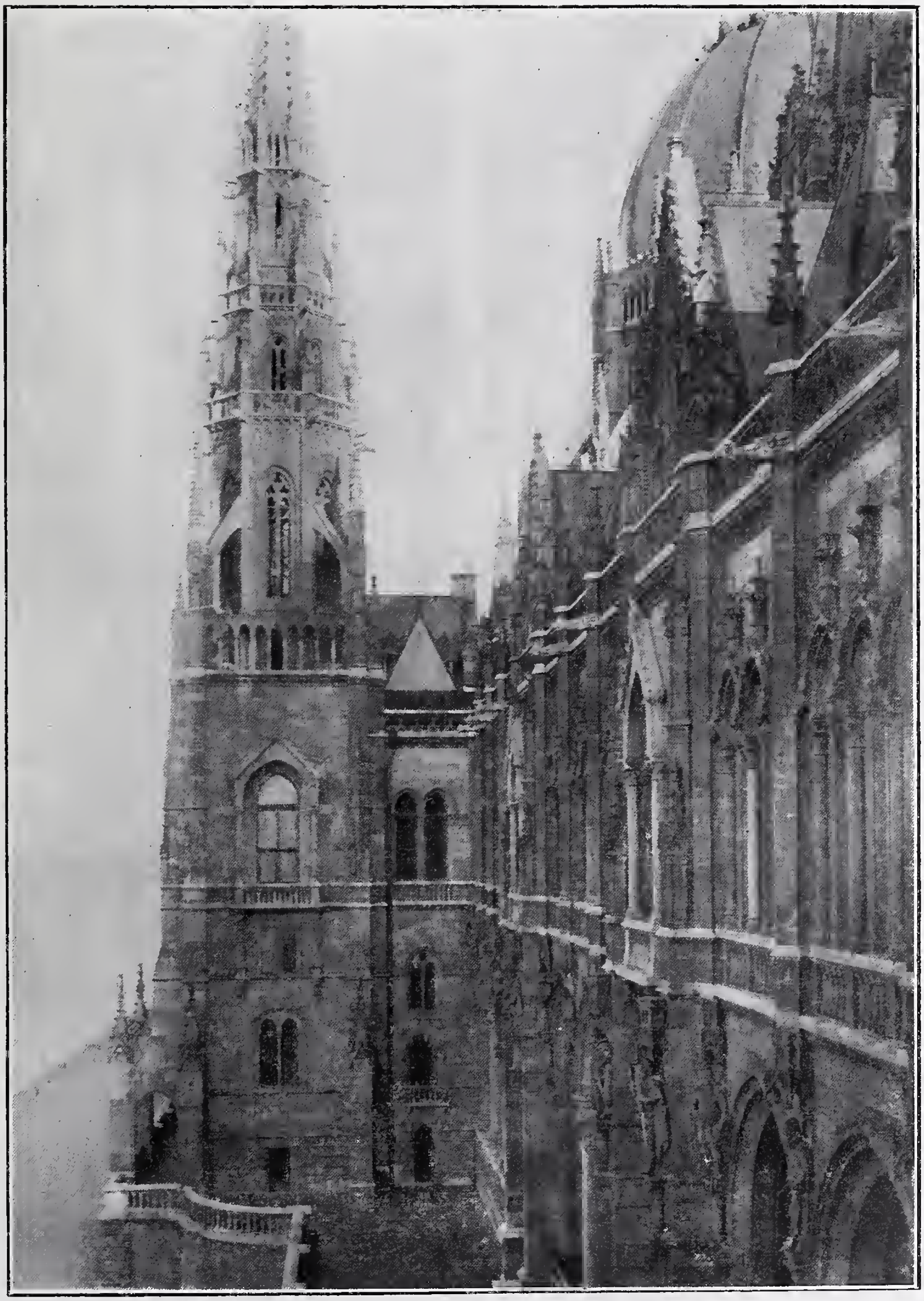
"It was said above that the Campanile is one of the heaviest buildings in Europe for its size. The average area of masonry in cross section of the main shaft is 873·74 square feet, or nearly fifty-two per cent. of the total area of the tower. Counting the brickwork at 105 pounds per cubic foot, and the stone-work at 150 pounds per cubic foot, and allowing for bells, trusses, &c., the total weight of the tower is in round numbers 13,000 tons, whence the distributed load on the piling is somewhat over six tons per square foot, a load which would cause modern engineers to hesitate a long time before putting upon piles which are simply driven into the clay. The foundations have, however, stood the test of several centuries without yielding an inch; and one of the most valuable results of the investigation has been to fix a maximum of load which can safely be borne under such conditions. It is an interesting question how much the piles really support, for, as previously explained, they have no solid bearing, and according to the manner in which piles are usually driven in Venice, could not be relied upon for such a load as six tons per square foot. It is more than probable that their function is simply to hold the clay in one compact mass, the clay itself really bearing the load. Possibly such an hypothesis would explain why the builders added a row of piles entirely outside of the face of the foundations and affording no direct support, with the idea of binding the clay more tightly about the base of the tower."

Some fragments of the mortar of the fallen Campanile, brought home by Mr. Algernon Bourke, and referred to in his letter to the *Times* on the 7th August, have, through the good offices of Mr. P. H. Feilding, been sent to the Institute, and are to be analysed by the Science Committee when the work of the Session begins.

A slip in the proof-reading of Signor Beltrami's article in the JOURNAL for 26th July, p. 430, is pointed out by Professor T. Roger Smith. The depth to which the excavations were carried for the Campanile should have been given as 4·30 mètres, not 84·30, as printed.

The late Emerich Steindl [*Hon. Corr. M.*].

The death is announced, at the age of sixty-three, of the eminent Hungarian architect, Herr Emerich Steindl, an Hon. Corresponding Member of the Institute since 1894. He was the architect of the Royal Polytechnic School, Budapest, in which institution he was for many years Professor of Mediæval Architecture. Other notable works of his were the Royal Opera House at Budapest and numerous churches in various parts of his country. His great work, the Parliament Houses of Budapest, had been for eighteen years building, and had but just reached completion, the formal opening being arranged to take place a few weeks hence. Only a few months ago the Institute received from Herr Steindl a handsome collection of photographs, in which every part of this interesting work appears to be presented. The accompanying illustration shows the part of the building facing the Danube. The photographs have been mounted and bound in a single volume, and may be inspected in the Library.



PARLIAMENT HOUSES, BUDAPEST : THE DANUBE FRONT.

DUTIES AS TO DRAINS.—II.

By Algernon Barker, Barrister-at-Law (Newcastle-on-Tyne).

"Newly Erecting" or "Rebuilding."

The next question is whether or not we are "*newly erecting* or *rebuilding* a house which has been *pulled down to the ground floor*." If we are doing neither of these things, we need not drain under section 25.

23. **Newly Erecting.**—First as to "newly erecting." If the site has never been built upon before, then the case is clear, but two other possibilities might arise. We might be building on the site of an abandoned building (whether it had been finished or not), or on the site of an unfinished building.

Again, our new house might not coincide with the site, or be in any degree of the same character as the previous building. Should we in such cases be newly erecting?

You may ask why I trouble about this; for you will say the building you are putting up must either be a new erection or a "rebuilding, &c." This, however, is not the case, and you may sometimes escape under both heads.

24. **Previous Building Abandoned.**—First as to the finished building and its total abandonment. If all intention to again use the previous building had been abandoned, the succeeding building would be "newly erected" (*Lord Auckland* v. *Westminster*, 7 Ch. Ap. 598, 606; *Worley* v. *St. Mary Abbotts*, 1892, 2 Ch. 404; *Barlow* v. *St. M. A.*, 27 Ch. D. 362, 1884, and 11 Ap. C. 267; *L.C.C.* v. *Pryor*, 1896, 1 Q.B. 465; *Alexander* v. *West End L.C.P.R.C.*, 31 L. J., Ch. 501. This case was on the Lands Clauses Acts, and see *Robertson* v. *King*, 1901, 2 K.B. 265, as to a dwelling-house not dwelt in, but quære). This we learn from the above cases, which, except *Alexander's case*, all deal with general building lines in the Metropolis. According to *Alexander* v. *West End L.C.P.R.Co.*, the test is the irreparability of the decay of the previous building. We shall see that you can also abandon the old building by erecting a building of a totally different character on it, and so be liable as newly erecting, even though you left the old building untouched.

25. **Previous Building Unfinished.**—Now suppose that the previous building had not been finished. If it had been abandoned, *a fortiori* your building is a new erection. But suppose it had not been abandoned, would this make your house a new one?

Two hypotheses are before us: (1) You, being building owner, begin the house yourself, and after a pause continue it. You are attacked under section 25 when you resume building operations. In this case you have from first to last been "newly erecting" your house, but the plea of unconscionable delay (par. 63) might be open to you. (2) Someone else has begun, and you have bought and are finishing.

In this second case much will depend on how far the vendor has carried his operations.

Suppose he built above the ground floor, you might plead the *spirit* of the section, which excuses building owners who, in "pulling down," leave a portion standing above the ground floor. Why, you might ask, should not a brick *built* above that limit excuse as well as a brick *left* above that limit? But the surveyor would argue that, according to the cases as to Michelangelo Taylor's Act, the unfinished house was no house, and your addition therefore a new house. These cases you could distinguish, and cite *R.* v. *Adams* (see par. 30, sub-par. 3) in answer. You would say that you might be erecting a new house in one sense, but you would not be "newly erecting" a house, for someone else has begun the work. Perhaps this looks like the quibble of a lawyer or a Talmudist, but I think it is true. The surveyor would answer that the vendor's erection was not even a "building" (*Wendon* v. *L.C.C.*, 1894, 1 Q.B. 812) (general metropolitan building lines), *R.* v. *Manning*, L.R., 1 C.C.R. 338 (building nearly finished); *contra Williams* v. *Wallasey*, 16 Q.B.D. 718, general building line, but distinguishable as "bring forward" used. (*Ravensthorpe* v. *Hinchcliffe*, 24 Q.B.D. 168, on P.H.(B.S.)Act. See also *Lord Auckland's* and *Alexander's* cases, *ubi supra*. These cases would, I think, be distinguishable, and could not prevail against the spirit of our section. You might also sometimes plead conscionable delay and standing by (par. 63) in that the vendor, whose *rights* you have bought, was led to lay out money in building, and you to pay the price you did, in the belief that the drains had been tacitly approved by the local authority.

If the vendor's house had reached no further than the ground floor, the surveyor might in his turn plead that the spirit of the section made you liable, and his argument that your house was a "new house," none having preceded it, would be the stronger the more unfinished the building which you bought and continued. But, this being a penal section, its "spirit" could not be pleaded, since it would be construed strictly in your favour, and, as I said before, erecting a "new house" is not quite the same thing as newly erecting a

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⁂ Max = Maxwell on the Interpretation of Statutes. P.H.A. = Public Health Act. Lumley from henceforth = 1902 ed. (*q.v.*). The final addendum to Lecture as to Rights will appear.

house. I should, however, be sorry to be in your position, unless you could also plead "standing by."

If the vendor had only built a wall or cowhouse, or begun a building of quite a different area from the one you are engaged upon, then, I think, you would be liable (as we see in par. 26), and, in the case of previous wall or cowhouse, there would be no "standing by," since they did not need to drain under section 25.

If you are not liable, of course it will not affect your legal position that, in order to finish the house, you have to pull down part, unless, indeed, you pull down to the ground floor.

Unless you are yourself an offender of newly erecting, you do not take over with the land the vendor's liability, which, if he has offended against the "useless" of the section, will cling to him personally.

26. **Subsequent Building of a totally different kind.** Suppose, however, that, though the previous building has not (at least otherwise) been abandoned, and is sufficiently finished to count as a building, will your superstructure be under the section if it do not coincide with its site? You will be under liability to drain if you put up a building of a totally different superficial area, for you will be held to have abandoned the old building (*L.C.C.* v. *Pryor*). A building only slightly smaller would not matter. The cases under section 159 as to "New Building or merely addition" (*i*) do not apply at all, since there it was "building" and here it is "house"; there it was "new building," here it is "house newly erected"; and, further, a special artificial meaning is given to "new buildings" by that section.

27. **Rebuilding a House Pulled Down to the Ground Floor.**—But then, suppose the house is not newly erected, the surveyor may say we are "rebuilding" a house "which has been pulled down to the ground floor." As to this "rebuilding, &c.," many questions arise. Will a voluntary pulling down bring you under the section, or is a building pulled down when a fire has gutted the greater part of it? Then, how complete a demolition will bring us under the section—how complete horizontally, *i.e.* will one wall completely demolished be sufficient? and how complete vertically, *i.e.* is it sufficient to take off the roof?

28. **If Voluntary, Method of Demolition Immaterial.** If it be voluntary, any method of demolition, be it pushing or burning or blowing down, will bring you under the section. The housebreaker often pushes a house down. Numerous cases may be referred to on arson and riot to prove this (*R.* v. *Langford*, *R.* v. *Harris*, and *R.* v. *Simpson*, reported Car. and M. 602, 661, 669 respectively; *R.* v. *Howell*, 9 C. and P. 454, Max. 396*b*).

But voluntary the demolition must be. An accidental destruction will not deprive the rebuilder of his rights to escape section 25 on the ground that he has not pulled down. The word in our section clearly points to voluntariness. Section 74 of the Metropolis Management Act of 1862 (its repeal in 1894 does not concern us), shows that a distinction was drawn between "taking down" and burning down; for compensation was given if the local authority interfered after an accidental fire. This last argument, however, cuts both ways (*j* 1).

Then, again, to take a wider sweep of vision, we see that an involuntary abandonment of a building would not have made its successor a building erected for the first time, so as to bring the landowner within the grip of the law as to general building line, and so we may on the same broad principle gather that the Legislature does not here confiscate a man's vested rights until he voluntarily abandons them (*Lord Auckland* v. *Westminster*, 7 Ch. D. 597, quoted *Worley* v. *St. M. A. K.* 1892, 2 Ch. 408, *q.v.*, 409 bottom; *Barlow* v. *St. M. A. K.*, L.R., 11 Ap. C. 769 bot.; *L.C.C.* v. *Pryor*, 1896, 1 Q.B. 465).

29. **Pulling Down After a Fire.**—Another question arises. After a fire, may the unsafe part of the house (at least) be pulled down without bringing us under section 25? Yes, for the fire has really done the demolition, and a wind, or the law as to dangerous structures, together would complete it.

30. **How Complete Need Demolition be, generally?**—The answer is that unless every vestige of the building has been pulled down to the ground floor, the rebuilder is not under section 25.

In *A.-G.* v. *Hatch* (1893, 3 Ch. 36), a case as to prescribed building lines under the P. H. A. s. 155, which is in agreement with *Masters* v. *Pontypool*, we are told that unless the demolition was complete the section did not apply, though a few bricks left standing would not matter. Ours is an *a fortiori* case, for in section 155, with which the above cases dealt, compensation was given, and so that section would be construed less strictly, *i.e.* less complete demolition would be required to bring the section into operation than ours, which contains a penalty and no compensation. Then, again, the words, "to the ground floor," are absent from section 155.

In *Alexander* v. *West End* (31 L. J., Ch. 501), a case on compulsory purchase, where the Act would not be strictly construed, it was held that only if a house was reduced to a mere heap of bricks could it be said to be demolished. (*Gordon* v. *Gordon*, 1894, 2 Q.B., at page 749, a case on Michelangelo Taylor's Act as to compulsory taking, which says, "If you divide a house, you have no house," is not in point, for there, again, there was no mention of "ground floor.")

Then there are cases as to pulling down by rioters. In *R.* v. *Adams* (Car. & M. 299) we are told that, to make the accused liable, there should be a complete demolition so as to leave the house no house, though, according to *R.* v. *Langford* (*ibid.* 604), a few stones or a chimney left standing would not matter. In these cases, where the total demolition would mean imprisonment, the Court naturally construed strictly, and leaned to the opinion that the accused had not totally demolished.

The case of *James* v. *Wyvill* (51 L. T. [N.S.] 237) is more applicable as regards the particular matter now discussed, for it deals with the definition of "new building" in section 159, which uses the words "pulled down to the ground floor." Here also the Courts would, as in ours, if possible, not hold a building to have been pulled down, since so to hold would open the door for penalties under by-laws. This case tells us that the building must be all, or nearly all, pulled down (to the ground floor) in order to come under the definition.

According to a building line case, *Robertson* v. *Greenock* (21 Sc. L. R. 215 and 306 note), "taken down" means wholly taken down.

So we see that, even where the Courts had no strong reason for requiring total demolition to have taken place in order that they might say that the building had been "taken down," and where nothing was said as to "ground floor," the house had to be nearly all demolished in order to bring people under the section. In our case the Courts would, if possible, not hold the house to have been pulled down, since a pulling down to the ground floor, *plus* bad drains, would mean a penalty, and the Courts lean against a construction which would penalise. I go further, and say that as the Act has left a margin, *i.e.* the walls below the ground floor, we need not (in spite of *James* v. *Wyvill*) imply any further margin, since the express excludes the implied (Max.).

31. **How Complete Horizontally?**—Now, we may ask, How far need the demolition extend horizontally in order to bring us within the section? Clearly to every part of the house, and clearly not to detached outhouses nor to any adjoining buildings, for these are not part of the house; nor yet need it extend to a party wall or an adjoining privy, or other place held in common with a neighbour. I refer to my previous remarks as to "House, part of, or not" (par. 20, end).

32. **How Complete Vertically?**—Then, how far down need the demolition extend vertically so as to bring section 25 into operation? Clearly down to, and, as we have just seen, quite down to the "ground floor." But what *is* the ground floor?

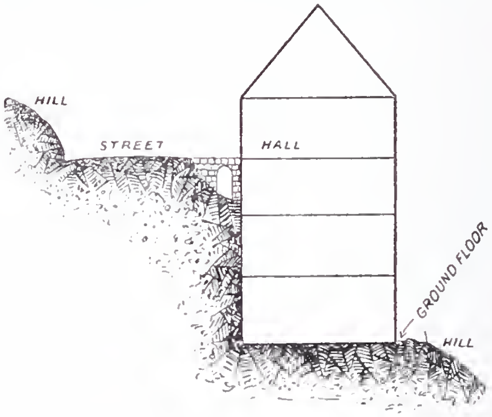
33. **"Ground Floor."**—The *Century Dictionary* defines this word as "the floor which is level, or nearly so, with the exterior ground."

But at what side of the house, whether at visitors' entrance or street, or where, is the "ground" to be looked at? At the *lowest* side.

Everything depends upon context and purpose. If I am a gouty old gentleman writing to a landlady for a "ground-floor room, because I object to climbing staircases," it is clear that I mean the front-door floor. If a honeymooning couple write to say they "don't want the ground floor, as one is so apt to be overlooked from the street," then it is clear that the street side of the house is considered. If, again, the landlady is asked for a ground-floor room, so that the children can easily get in and out to play in the fields behind, then clearly the ground floor at the back is meant.

Now the plain intent of our section was that a house very nearly pulled down, and not one hardly pulled down at all, should come under section 25.

If any of the above sides for ascertaining ground floor were taken, then a man whose entrance and street fronts have both only one story, as shown in the diagram, might have to drain under this section, though he only took down the top one of perhaps four stories. This would be absurd. It is clear to my mind that the ground must be looked at at the very lowest (of course external) side of the house.



From this it also follows that, if along that side the ground is uneven, the very lowest level of the ground must be treated as the ground level.

On the other hand, an excavation round the house cannot be considered in taking the ground level; for we know that there are such things as basements with areas.

On the same principle, though in seeming contradiction to the definition, I should hold that in a one-storied house which, having its floor below the ground, consisted solely of basement, the basement would be the ground floor, otherwise a very much more partial demolition than was required in the case of an ordinary house would bring the owner under the section. This would not be fair; but I have never heard of such a house except in the Salt Districts.

One more less exceptional case will be a flat. A flat can only be said to have been "pulled down to the ground floor" when the ground-floor flat and all the flats above it have been demolished, as we saw in discussing "Division by Floors" (par. 21).

I can give no clear authorities. Perhaps cases which may in future be decided as to cellar dwellings, or Workmen's Compensation Acts, may be of use, but I think a general view of the purpose of the section is more helpful.

We may therefore define a ground floor as a floor which is level, or nearly so, with the lowest part of the ground lying along the lowest side of the house, the bottoms of excavations round the house not being considered as ground level but as below it, except in the case of the one-storied house we have described.

34. **When Newly Erected. Summary.**—I may now sum up this part of my lecture.

A house is newly erected if it succeeds a building which has been totally abandoned, or perhaps a very unfinished building though it has not. There will be a total abandonment if the succeeding erection is of quite a different character from its predecessor.

35 **When Rebuilding of House Pulled Down, &c. Summary.**—A house is held to have been pulled down to the ground floor, so as to bring its successor under the Act, if the previous house has been voluntarily demolished in any manner, though you might freely pull down the part which has been rendered unsafe by fire without bringing the succeeding house under the section. The demolition, in order to make you liable to drain, must be absolutely complete and extend to the ground floor, as judged from the lowest ground level at the lowest side of house (areas excepted).

Offences of Erecting (or Rebuilding) and Occupying.

We have thus seen whether we are under the section. Before proceeding to discover what must be done to obey it, we will first of all consider the two crimes against which the section is levelled so far as they affect the building owner.

As regards the first, viz. erecting or rebuilding, I showed in par. 3 how wisely the Legislature acted in not waiting until the building was occupied before it insisted on proper drains. The drains must be the first work to be done (" unless and *until* "). The penalty is stated in the section, and is recoverable summarily.

36. **To Make Occupation Punishable, must be either a House by Plan.**—As regards the second, viz. occupying, I have already made certain remarks in par. 5. I need make no apology for dealing with it, for why put up a house with bad drains (even if this were legal) if it cannot be legally occupied ?

We have already seen (par. 4) that, if a building contains the usual marks of a house which is habitually used for the purposes of human, many-houred, indoor inhabitancy, whether by day or night, and thereto has the necessary capacity and permanence, and has doors, windows, roof and walls, and perhaps chimneys, it is a house by plan, though not as yet so used. We will now see whether the converse is true, viz. that if so used it becomes by occupancy a " house," though it does not contain all the above characteristics. Except where the case comes under the definition clause and people are instructed or employed there, I think not. It would be absurd to hold that when the section says " or to occupy any house so newly erected or rebuilt " it means, according to the common-law meaning, by the word " house," something quite different from what it meant when it said " newly to erect or to rebuild any house, &c." (*See* " House, part of or not," and references in note (*j* 5).)

Thus I have heard of excavators of waterworks sleeping in the unlaid waterpipes. So, again, a building owner might put up a pigstye and then let tenants live there. The contractor for the waterworks and the building owner are not liable under this section, for the pipes and pigstye are not " houses by plan," nor yet are they schools, factories, or buildings in which persons are employed.

37. **Or under the Definition Clause.**—Where, however, the building comes under the definition clause as being a school, a factory, or an " other building in which persons are employed," this degree of housiness is not necessary in order to make us liable for " occupying," though, as we have seen, if there is not a covered building of sorts and if the instruction or employment is merely momentary, spasmodic, casual, or temporary, then the building does not become a " house by use or employment." Of course, if no one is taught or employed in the building, then it is not under the definition clause ; but if it is " housy " in *structure*, then any occupation of it becomes illegal when proper drains have not been made under the section.

38. **Occupation Punishable by Indictment and Loss of Contract.**—The punishment for " occupying " is indictment, since no fine is inflicted (*Archbold, Crim. Practice*, ed. 20, p. 2, bottom), and the person who lets it or occupies it could not recover rent or enforce a contract of service there, for the contract would be tainted with illegality.

39. **Occupier who.**—The master, and not the servants or workmen, would be liable for occupying a drainless " house," school, factory, or building in which persons are employed.

The erector is not as such the occupier, for occupying or causing to inhabit is not the same as " erecting " (*Pearson* v. *Kingston-on-Hull*, 3 H. & C., 921, 35 L. J., M.C. 36, 11 L. T. 317, Max. 474*c*).

40. **Punishments for Bad Landlords of Non-Houses and of Premises not under Section 25.**—If, however, the landlord lets any building, whether it were a " house " in the sense given in this section or any inhabited building [*see* Section 29, Housing of the Working Classes Act, 1890 (definition, dwelling-house), and Section 75, *ibid.*], where the rent does not exceed £8 (in London and City £20, Liverpool £13, Manchester and Birmingham £10, elsewhere £8), he would be held to warrant the

drains. Nor could he get much damages for the use and occupation of a building whose annual value was not over £8 and which was badly drained (*see* Max. 557).

The offence of allowing insanitary premises of any kind which do not come under the term "house" to be occupied is punishable under the nuisance sections of the Act (Stone's *Justices' Manual*, 901, and the "Nuisance Method," *post.*) Canal boats are dealt with under the Canal Boats Act, 1884. So, though these premises and boats are not forced by this section to have good drains, any want of sanitation is dealt with by other means.

I may remind you of what I said at the outset of this lecture (par. 9), viz. that other people are otherwise protected, but the man who goes to live in a "house" has reason to expect the law to see in a special manner that the same is not a death-trap and a whited sepulchre.

Council's Orders on Surveyor's Report.

Now to consider the orders which may be given us as to drainage. It would be wise to know what is lawfully required before choosing the position of the house or deciding on the level of its lowest sewage fount, and, in cases of rebuilding, even before making up your mind to what extent to demolish. In any case it would be well to be sure of one's duties under this section before placing superstructure on foundations, as alteration of drainage beneath the house would be the more difficult as the building advanced.

41. Summary of Remaining Questions as to what must be done under the Penal Method, Section 25.—What, then, are your duties, if you come under this section?

They are twofold, viz. structure and destination.

First, as to *structure*. There must be a covered drain or drains as far as the legal destination, and the drain or drains must be in accordance with the proper (par. 65) orders of the Council, duly exercising their discretion (par. 65) on the report of the surveyor, in five respects, viz., number, size, materials, level, and fall (par. 69–73).

Then as to *destination* (par. 78 84), the two kinds are sewers and cesspools (or other places), according to the position of the house.

42. Summaries as to Structure and Destination.—I propose to deal with the provisions as to structure very much in the order given in the Act. I shall consider who the surveyor is, what discretion he is given, whether a *valid* report is necessary, what facts it must contain, whether the authority need follow it, whether the surveyor need report, and what power he has of entering to inspect to see what you shall do, whether you have done it, and to connect drain with sewer (pars. 43–49).

Then I shall go on to consider the Council's discretion, discussing among other things their power to alter the level of your house (pars. 54 and 73), and also who can investigate, who can give orders, and who can deliver them (pars. 57–62). I shall show that, though a valid surveyor's report is a *sine quâ non*, and its facts must perhaps be followed by the authority, the Council have a discretion (the rules as to this discretion are summarised in par. 65).

After this I shall consider what will happen if the Council's orders are partly valid and partly invalid (par. 66), whether they are estopped from giving orders because they approved of the drains of the previous house (par. 67), whether they need give orders and can disclaim such a power (par. 68).

We then ask, what are drains? (par. 69), and we deal with number, size, material, level, and fall (pars. 70–73), discussing under the latter head the question whether the authority can alter the level of your house (par. 73). We then ask, as to the words "necessary for the effectual drainage of such house," what standard of necessity and effectuality is set up (par. 74), whether drainage need be of roof-water or field-water (par. 75), whether the words "of such house" imply "of its sinkless cellar" (par. 76), and "of its outhouses" (par. 77).

Summary as to Destination.—The next point which will occupy our attention is *Destination*. First, as to *sewers*, we ask whether the drain-owner or the authority or neither can choose which sewer shall be used when there are more than one within the 100 feet (par. 78), what kinds of sewers can be used (par. 79), in what the authority's "title to use" consists (par. 80), whether the sewer need be of "sufficient size" (par. 81). We shall then ask how the 100 feet must be measured, when we shall see that only an available sewer need be used, and that these words do not require a builder of a house below the sewer to raise his site (par. 82). Then we go on to consider the meaning of "site" and "house," and whether a large park, or even the site of an outhouse, is part of the site (par. 83). Secondly, as to "*cesspools and other places*," we consider nine questions which you will find under that head (par. 84).

Other Matters.—Finally, concluding the penal method, we consider the penalty and punishment for erecting or occupying, and (par. 85) the question as to who pays for drains, sewers, cesspools, and "other places" (par. 86).

Structure.

43. Surveyor's Report.—First, as to the surveyor's report. We ask who is the "surveyor"? What discretion has he? Is a valid report by him a *sine quâ non?* What facts, &c., must the report contain? Need the authority follow it? Need he report? Can he enter to inspect?

44. "Surveyor" who.—This section applying only to an urban district, a stop-gap or assistant surveyor cannot report (*Lewis* v. *Weston*, *ubi* *supra*, and in previous lecture); but, excepting as to election, the drain-owner cannot impeach the surveyor's title. (*Smith* v. *Hirst*, 23 L. T. [N.S.] 665.)

45. **Surveyor's Discretion.**—The surveyor's discretion is the same as that of the Council detailed later on (pars. 50–65, especially 65 summary), but since his function is only to act as the eyes of the Council, the analogy must be applied *mutatis mutandis*. So we may say that the surveyor may make mistakes, but his report must be the result of an *honest* endeavour to describe things as he thinks he *himself* saw them after *due investigation*, and must be given within reasonable time. This rule expresses the whole analogy.

46. **Valid Report Essential. Authority must Accept its Facts, but not its Conclusions.**—The Council, as we shall see, cannot (at least, in my opinion) make orders, unless there is a valid report.

The Council need only accept the facts stated in this report (see par. 59).

47. **Contents of Report.**—The report must be a "report"—that is, a statement of facts and premisses sufficient to allow the Council to make its conclusions. It must not be too vague, or be a draft order or a mere statement of cut-and-dried conclusions and opinions.

48. **Need Surveyor Report?**—Unless the Council requires it he need not do so, but he cannot disclaim such power or agree not to exercise it (Lewin, 210).

49. **Entering to Inspect or Connect.**—Can the surveyor enter our land to see what we ought to do, and later, to see if we have done it? Yes, plainly (*l*), if he first applies to a magistrate under s. 305, and the latter grants an order to enter.

50. **Council's Discretion. Valid Report by Surveyor a Condition Precedent.**—Next as to the Council's discretion (*see* complete summary and references to what follows in par. 65). A report by the surveyor is a *sine quâ non* to the Council's exercise of its discretion, but need this report be a valid one? I think it must, in spite of *Matthews* v. *Strachan* (*ubi supra*). We must give proper weight to the words "on the report of the Surveyor." For the same reason the Council must act on the *facts* contained in the report (*see* par. 58).

51. **Council's Discretion may be Inaccurate or Harsh.**—We have only to read the words of the section to see that in giving orders authorities have a discretion which neither magistrates nor higher Courts can review (par. 65).

There are numerous cases on "discretion" which show this—*e.g.* *Matthews* v. *Strachan*, 1901, 2 K.B. 547, R.I.B.A. Journal, July 1901, p. 440, 85 L. T. 70; *Hargreaves* v. *Taylor*, 32 L. J., M.C. 111 (on P.H.A., 1848, section 54); *R.* v. *Silvester*, 1862, 31 L. J., M.C. 93 (licensing); *V. of St. James* v. *Feary*, 24 Q.B.D. 703 (privies); *Austin* v. *Lambeth*, 27 L. J., Ch. 388 (materials of drain in this [25th] section, see par. 72); *Lewis* v. *Weston-super-Mare*, L. R. 40 Ch. D. 55 (on P.H.A., section 16, as to surveyor's report as to necessity for compulsory access); see last lecture, Part II., Max. 172, 173; *Stroud* v. *Wandsworth*, 1894, 2 Q.B. 1; *Kinson* v. *Poole*, 1899, 2 Q.B. 41, and 81 L. T. 25; *L.N.W.R.* v. *Westminster*, 1902, 1 Ch. 269, and 18 T. L. R. 74 (placing urinals in streets); *Pethick* v. *Plymouth*, 8 R. 107; 70 L.T. 304; 58 J.P. 476; and *Mason* v. *Wallasey*, 58 J. P. 476, 477, on same subject, and generally *see* Max. IV., section 2, especially p. 340.

Nor will a plain mistake of fact, *i.e.* an *inaccurate* exercise—(*Smith* v. *Chorley*, 1897, 1 Q.B. 678, Max. 326), nor a *harsh* exercise (*Folkestone* v. *Woodward*, L. R. 15 Eq. 159) of this power take it away.

52. **Must be Mature.**—The discretion, however, must be *mature*, *i.e.* on due consideration of the matter (*e.g.* *Campbell* v. *Gillespie*, 1900, 1 Ch. 288, but *cf.* *Re J. Hargreaves*, 1900, 1 Ch. 353), and urban councils are, as we have seen, by this section required to first obtain the surveyor's report (*Lewis* v. *Weston*, 40 Ch.D. 69).

53. **Must be Unprejudiced.**—Then, again, the discretion must be *unprejudiced*, *i.e.* not clogged by general rules (other than legal by-laws) [*Bew* v. *Bew*, 1899, 2 Ch. 467; *In re Hope*, *ibid.* 685 (cases as to judges); *Nichol* v. *Epping U. C.*, 1899, 1 Ch. 844; *Tinkler v. Wandsworth*, 27 L.J. Ch. 342; *Wood* v. *Widnes*, 1897, 2 Q.B. 357 (cases as to privies); *R.* v. *Silvester*, 31 L. J., M.C. 33 (1862) (licensing case), and *see* Max. 175, *d*, *e*, 176 *a*, *b*, *c*, &c.], for these would cast suspicion on the genuineness of their inquiries (*Wood* v. *Widnes*, 1897, 2 Q.B. 357, and *see* *Frost* v. *Fulham*, 1900, 82 L. T. 720, 64 J.P. 629, on section 21 P.H.A.)

A recent case which seems to contradict this only has reference to orders under section 21, where general regulations were specially allowed.

54. **Must be Relevant.**—The discretion must be *relevant*, must keep within the scope of the Act, as gathered from its language (*j*, 2), and must not be swayed by extraneous matters or used for collateral purposes, not even to keep within the fancied spirit of the Act (*j*, 4). [*Tinkler* v. *Wandsworth*, *see* par. 53; *Stockton* v. *Darlington*, 9 H.L.C. 246 (as to railways taking lands) *County C. of West Riding*, 1896, 2 Q.B. 388 (licensing theatres); *Postr.-G.* v. *London*, 78 L. T. 180 (vetoing telephone wires to secure a better service); Max. 171*b*, 174*e*, 175*b*, 335*d*, 417*b*, 504*d*. And *see* cases below.]

Thus in *Matthews* v. *Strachan* (R.I.B.A. Journal, July 1901, p. 440, and L. R. 1901, 2 K.B. 540), (but *see* pars. 66, 70), we see that the local authority cannot by orders under this section regard the general drainage of the district, and its facilities for sewage disposal, and thus enforce two drains, one for surface-water and the other for sewage, when this was quite unnecessary for the effectual drainage of the house itself. But they could do so, if *they thought* it was requisite for the effectual drainage of the house. (They could also effect this object by a by-law.)

So, again, Lumley tells us that *sewers* cannot be enforced under this section, and *see R.* v. *Tynemouth*, 1897, 75 L. T. 86; *Clarke* v. *Paddington*, 5 Jur. [N.S.] Pt. I., 358, and Lumley, 63 (1902 edition).

Nor can the authority make the fall of the drain steep in order to force us to build higher up a hill (*R.* v. *Preston*, 3 T. L. R. 665, and *St. Martin's* v. *Ward*, 1897, 1 Q.B. 40 (par. 73).) (*Cary's case*, 11 L. T. 339, tells us that the level of a street can be prescribed under section 157 for the sake of smoothness, but not for the purpose of meeting a hill in another street. Of course this case only applies to the above question as to level of drain in that it requires *relevance*. The Board can lower the end of your drain to any extent, but cannot raise its beginning higher than your lowest sewage fount.

Nor can they make orders with a view to preventing you from pouring into a neighbour's drain and making it a sewer. This would be an "economical discretion" condemned in *R.* v. *Newcastle* (1889, 53 J.P. 788, 60 L. T. [N.S.] 963, and 5 T. L. R. 467), (*contra, see* opinion J.P., vol. 65, p. 283), and perhaps *see the Newbiggin case*, *North Mail*, March 12th, 1902, when fully reported. (Newbiggin was defendant before the Lord Chief Justice.)

55. Must be Honest.—And of course the discretion must be *honestly* exercised (*R.* v. *Tynemouth*, *R.* v. *Greenwich*, and *Postmr.-G.* v. *London*, *see* last lecture, R.I.B.A. Journal, 27 July 1901, p. 442, col. 2). Nor must it be forced by duress. To attack it on these grounds would require a clear case.

56. Reasons need not be given.—This being so, need the Council give reasons for their orders. They perhaps need not even allude to the section to show their authority, since they can validly exercise powers of whose existence they are unaware (Max. 326 *a*, *b*), and no reasons except a woman's reason need be given. They need only use the American expression "because" (*m*).

57. Delegation of (I.) Seeing, (II.) Judging and Ordering, (III.) Delivering the Orders.—The Council must delegate the function of seeing to the surveyor, may delegate the power of judging and ordering to a committee, and may allow any agent duly accredited by them to deliver their orders.

58. Seeing.—The Council must follow the facts contained in the surveyor's report as to the lie of ground, nature of house, means of flushing, &c. They must use the surveyor as their eyes (*Sherborne L. B.* v. *Bogle*, 46 J. P. 675). For the only alternative would be a proper investigation by every member of the Council, which would be absurd and rather inconvenient, and to permit even this as a substitute would be to ignore the words "report of the surveyor." If, however, the reader thinks that the cases of *Matthews* v. *Strachan* (*ubi supra*) and *Nicholl* v. *Epping Urban Council* (1899, 1 Ch. 844, at p. 851) modify this view he is at liberty to do so.

59. Judging and Ordering.—But the Council cannot delegate the power of originating orders and judging what is "necessary." It is to them that the necessity must "appear," and we must not ignore the words "appear . . . to the urban authority." The surveyor is their eyes, and his facts should be their facts; he is not their brains, and his opinions and conclusions need not necessarily be theirs.

I have two further reasons for thinking this power cannot be delegated, though, if the surveyor's orders are impliedly or expressly ratified by a Council which has exercised a legal discretion as above, then they become valid.

My first reason is that this is a discretionary trust, and such cannot be delegated (Lewin, *Trusts*, 279). This principle was followed in the above case of *Cook* v. *Ward* as to sub-committees. The other argument is that, since express power to delegate to committees was given by the Act, this takes away all implied powers (even if there were any) of delegating to anyone else.

The cases of *Austin* v. *St. Mary, Lambeth*, and of *Stokes* v. *Haydon*, rather favour than contradict this opinion, though they show that ratification by the Council will make the surveyor's orders valid; the former case also showing that if the surveyor has not required more than the Council specifically ratify, a previous general delegation will not invalidate the order.

60. But Subsequent Ratification Validates.—That subsequent specific ratification will make valid a surveyor's order is seen from the recent case of *Stokes* v. *Haydon* (84 L. T. 531) on the section dealt with by *Austin* v. *St. Mary, Lambeth* (*n*), and the latter case proves that this is so even when the ratification is after a date fixed by law for the original order. I think, however, that the ratification must be known to the building owner within a reasonable time (par. 63), or at least that it cannot affect him if after such reasonable period has elapsed he has done work which the order would make useless.

61. Power of Judging and Ordering can be Delegated to a Committee.—The authority is expressly given power to delegate to committees under section 200 of the Public Health Act, 1875, and the orders of such committees outside the Metropolis do not need the approval of the Council (*St. Leonards* v. *Holmes*, 50 J. P. 132). The committee cannot, however, sub-delegate its powers to its members, but must act as a whole (*Cook* v. *Ward*, 2 C.P.D., at p. 263). *Firth* v. *Staines*, 76 L. T. 496, 500, is not in point, as it deals with quite a different statute, which required the Council to confirm the committee.

62. Delegation of Delivery Allowed.—From the necessity of the case the power of delivering the orders so made can be delegated to any agent. Delivery being a merely mechanical matter, intermediaries could be employed (*see Miles* v. *Bough*; *Brown* v. *Tombs*). But the agent must be duly accredited.

63. **Must Exercise Discretion Punctually.**—Next, the discretion must be *punctual*. The authority cannot unduly delay the building owner and keep him waiting for an unconscionable length of time. I do not mean that he can force them to make orders. But if they still remain silent after he has waited a reasonable time, I think he can begin to build, carrying out their subsequent orders so far as they do not disturb or spoil the work he has done. We have just seen, however (par. 60), that their *ratification* of the surveyor's orders may be delayed (*Austin* v. *St. Mary, Lambeth*), but there is nothing unreasonable there. The builder knew what was or would be required. I withdraw my opinion given on this matter as regards regulations and orders under section 21 in my previous lecture on "Rights as to Sewers," Part II., though this is an *a fortiori* case for punctuality. This is such an important point that no apology is, I think, needed for discussing it at length. What length of time is unconscionable is considered in the appended note (*o*).

64. **Orders must not Lead to Nuisance.**—To these rules I may add one more, viz. that a nuisance must not actually occur from the absurdity of the orders, or they will be held bad (*Lamacraft* v. *St. Thomas*, 42 L. T. [N.S.] 365).

65. **Summary as to Discretion to Give Orders.**—Now we sum up the rules for the exercise of this discretion. It may be mistaken and harsh (par. 51), but it must be mature (par. 52), unprejudiced (par. 53), relevant (par. 54), honest and not under duress (par. 55), and need not be accompanied by reasons (par. 56). Also it cannot be delegated except to a committee (par. 61), cannot unduly delay the building owner (par. 63), and must not lead to actual nuisance (par. 64).

As to form, the orders may be verbal, and may be delivered by agents (par. 62). If the exercise of the discretion breaks the above laws it can be upset, either wholly or in part; but if it does not, no tribunal on earth can touch it. It cannot be revised by the High Court nor by Justices of the Peace, and of course not by their revisory Court, the Quarter Sessions, under section 269. Nor is there any appeal to the Local Government Board under section 268, since under this section no "expenses" are recoverable. We have seen that the power of investigating must, and the power of delivering orders may, be delegated.

Now we will consider what would happen if the orders were invalid only in part.

66. **What if Part only of the Order Tainted?**—If any part of the order were invalid, the whole would be tainted, unless the invalid portion could be separated from the rest. The general law as to this is contained in books and cases on trusts, contracts, and by-laws (*e.g.* Lewin, 116, not very helpful; Pollock, *Con.*, 350), but I may quote specially Max. 564, *et seq.*; *Wood* v. *Widnes* (1897, 2 Q.B. 357, and 1898, 1 Q.B. 463); and there are other privy cases, in which it will be seen that no "expenses," even *pro tanto*, were recoverable by the local authority (*St. Martin's* v. *Ward*, 1897, 1 Q.B. 40). (But *see Chitty's Statutes*, Public Health, 50 (*d*); *McOmish* v. *Glasgow*, 1898, A.C. 432; *Hall* v. *Potter*, 39 L. J., M. C., 1; *R.* v. *Lundie* (1862), 31 L. J., M. C., 157; *R.* v. *Faversham* (1867), 8 T. R. 532).

In my opinion, until the Council withdrew the bad part of an order, the whole would be bad if the illegal part of the scheme in any way affected the part that would otherwise have been legal, as in the illustration I am about to give. Thus, suppose that a Council desirous, not of draining our house in the best way, but of promoting some excellent fad about keeping flood-water out of the sewers of the district generally, ordered us to put two drains—one for flood and another smaller one for sewage. This order, *owing to its motive* (*see* "Number" of Drains, *post* par. 70), would be bad (pars. 54 and 75) (*Matthews* v. *Strachan*).

Suppose we cut out of the order the larger drain, which we hold to be wrongly prescribed, the order thus revised by us would be bad, because plainly it was not intended by the Council to make such an absurd order. So, whether unrevised or revised by us, the order would be bad.

The Council can cure it, but they must do so within a conscionable time (par. 63) from our notice to them. For the drain-owner cannot, as we said, be expected to cure it himself, and a void order is no order. If the Council cut out the bad part—even if it were absurd—yet, unless it would lead to "nuisance" (par. 64), we would have to obey, for the exercise of the discretion would at the worst only be "erroneous."

But, if the Council do not, even the whole Bench of Judges could not cure it, for that would be to usurp the powers of the Council. Judges will not patch up or make a crazy-work from good remnants of contracts or by-laws or orders for other people; and if they did it would be too late. The conscionable time would have passed.

But suppose that the part which was imposed under an invalid exercise of the discretion in no way affected the part imposed under a valid exercise, then I think the case would be different: it would be as if there were two distinct orders regarding two different houses.

67. **If Drains of Previous House Approved.**—If the local authority induced us to pull down an old building by saying that the old drainage system would do, then, unless this was done so long ago that circumstances had changed, their silence

would amount to approval of the old or of a reproduction of it, and they could not give fresh orders (*Masters* v. *Pontypool*, L. R. 9 Ch. 677).

68. Need the Authority give any Orders, and can they Disclaim?—Hitherto we have pictured an over-enthusiastic Council and a grudging drain-owner. Now we shall see that the authority cannot be forced to give us orders unless they wish. Not under section 299, for that relates to sewers only; nor by complaint through Parish Council to County Council under section 16 of the Local Government Act of 1894, for though this allows enforcement on the authority of its sanitary duties, it does not say giving orders is a duty. The medical officer's report under the 1888 Act, section 19, could only lead to remonstrances and not compulsion. (As to these, *see* last lecture on "Rights," Part III.) No other statute allows such compulsion. Section 25 is not compulsory on the Council, for there is no private individual or body or class, or (as we have seen) any public body having under the terms of the section a vested right to its exercise (Max. 341, 342, 345*b*, 346*b*).

This point may be of very great importance where your neighbours have bad drains. You can insist on the Council having good sewers; you cannot insist on their insisting on other fellow-citizens having good drains under section 23. You may have other means of reforming your neighbour. Action by the Council under section 23, in the case of "insufficient drains," *is* compulsory (*see* later).

The authority, however, *cannot disclaim* this power, for this is a public trust, and only by legally resigning his office or by delegation to a committee on which he does not sit can a councillor prevent himself from giving orders (*cf.* Lewin, 210). But if the Council express satisfaction with your plans or wait too long, then, of course, they cannot give further orders.

Number Size, Materials, Level, and Fall.

Now we come to the above five structural points as to which the urban authority can give orders to the drain-owner.

69. Drain or Drains What?—But first we ask, does "drain" include the soil and lead pipes, &c., within the house? The Metropolis Management Act, 1855, section 75, in a similar section added to the word "drain" the words "and such branches thereto and other connected works and water supply," so that these also had to be to the satisfaction of the proper official. From this one would think that as our Act made no mention of such they are excluded (analogous reasoning, par. 73, *q.v.*, and refs. to Max., and see note *j*, 1.).

We see from last lecture (addendum of 1902 to p. 377, col. 2) that "sewer" includes the whole apparatus but not a pumping station. This, however, is not to the point. If my contention is wrong, and if a drain accordingly includes the sink-pipe, a sink includes a jug, which is absurd. Also the evidence from context to the Metropolitan Act (as above) distinguishes our case. *Glasgow Corporation* v. *McOmish*, 1898, A.C. 432, is distinguishable, as the Police Act there in question expressly defined drains as including sink conductors, &c.

Roughly speaking, only horizontal pipes, and even then not the small leaden ones, can be "drains." As to these, subject to by-laws, if any, you are free.

As to a gutter down-pipe, I suppose that the case of *Holland* v. *Lazarus* forces us to hold that these are drains. The fact that they are not within the scope of the sanitary part of the Act cannot exclude them. (*See Sykes* v. *Sowerby*, p. 372, col. 2, R.I.B.A. Journal, 8th June 1901, addendum. Clean-water private *sewers* were excluded as being within the *express* exception of "own profit," and were held "own profit" because both private *and* clean, and not because within an implied exception of clean sewers from the sanitary part of the Act. There being no "own profit" clause excepting gutters and clean drains from the sanitary provisions of P.H.A., Part III., these are under section 25.) On the other hand, if it is not a quibble, one might ask how, except in Japan, gutters could be constructed till the house was built. The section forbids you to build till you have constructed drains (and therefore gutters)!

A sewer cannot be enforced under this section. (*Clarke* v. *Paddington*, 5 Jur. [N.S.] pt. 1, 358. *R.* v. *Tynemouth*, 1896, 2 Q.B. 451; Lumley, 63, 1902 edition.)

70. Number.—More than one drain may be prescribed, if it is necessary for the effectual drainage of the particular house (*Matthews* v. *Strachan*, L. R. 1901, 2 K.B., at p. 547, middle, and pars. 54, 66, 75). The authority can prescribe a minimum, but not a maximum, and therefore the drain-owner can add others if so minded.

71. Size, not Shape.—The next point as to which orders may be given is size; and in view of the conflicting advantages of small and large pipes, there will be great variety of opinions among Councils. No special shape can be required, provided the sectional area is equivalent to that of a round pipe of the prescribed size.

72. Materials.—Materials may likewise be regulated, and here the exponents of high vitrification with its distortions, and low vitrification with its porosities, and on the other hand the apostles of metal, will each fight for their own fancy, as in *Austin* v. *St. Mary, Lambeth* (*see* par. 60).

But, though our district stood alone among all the urban councils of England in fancying one particular kind of pipe, we could not refuse to lay it, if so ordered. The authority could not specify the maker or even the locality, unless indeed one or the other had the sole monopoly of such class of pipe, and provided also such council was acting *bonâ fide* (pars. 54 and 55). For this law as to materials *see Austin* v. *St. Mary, Lambeth* (par. 60).

A covered drain may be of brickwork if the authority so order it.

73. **Level and Fall.**—The last two points I take together. The authority cannot, as we saw in considering relevant discretion (par. 54), attempt by orders as to drains to raise the site of our house or to force us to put our sewage founts (bath-rooms, sinks, w.c.'s, &c.) into upper rooms (*Cary*, 11 L. T., 339), for this would be to exercise an irrelevant discretion. The Act says, given the house ("such house"), the Council can prescribe the drains. This would be to prescribe the house. (*See* also the cases in "Relevant Discretion" (par. 54), especially *Ward's* and *Cary's*, and Max. 48.)

The matter becomes certain when we use that test which is quite as useful as decided cases—viz. comparison with earlier Acts *in pari materia* (*i.e.* passed with the same object) (Max.). Now the Metropolis Management Act of 1855, section 75 (end), which otherwise has the same general objects as our section, gives express power to raise the house-level, for it says, "and whenever any house . . . is rebuilt as aforesaid the level of the lowest floor . . . shall be raised sufficiently to allow the construction of such a drain," &c.

Again, in the interesting debates on the P.H.A. (see Lord Morpeth's speech, *Hansard*, xcvi. 391) it was mooted whether this power should not be given in the latter Act.

In accordance with the legal principles of interpretation (see note *j*, 1), and from the above speech, we are forced to conclude that it had occurred to the mind of the Legislature, and since it was omitted it was omitted on purpose, and was not intended to be exercised. (Max. 38*d*, 55, 220, 222*b*, 232*a*, 326*c*, 352*b*, 456, 459, 475, 477, bottom; *contra*, 436*d*, 438*a*, 509*b*. If impliable or unnecessary words are omitted, this does not show intention to exclude (Max. 457*c*); but, as I shall show, such power is not implied.)

The requirement that the drains shall empty into a sewer within 100 feet (if there is one) implies this power, for the sewer must, as we shall see (par. 82), be an *available* sewer. Nor can the Council exercise it in prescribing the alternative destination (cesspool, &c.), for they must prescribe it reasonably and relevantly, as we shall find when considering "Cesspools."

The authority, then, cannot raise the level of the house, either of its basement or of the place where the drains would naturally emerge from under the house.

Nor can it raise the level of the sewage founts (bathrooms, sinks, &c.); for a power to raise the *sewage fount* in the metropolis was, of course, impliedly included in the above section 75, and, being omitted here, is likewise excluded in districts outside the metropolis.

Still, where are we to stop? Could we (and, as will be seen when destination is discussed, we might have reasons for so doing) excavate the earth to an inordinate depth and put our sewage fount at the bottom of the pit thus made? I think not; for if by our own act we made a sewer or other prescribed destination unavailable or absurd, then we could not plead that it was so. We should have to make it again "available" and reasonable by modifying our house.

Notes (*l, m, n, o*) *as to Council's Orders on Surveyor's Report* (*pars.* 41 *to* 65).

(*l*) *Surveyor's entry to inspect and connect* (par. 49).

If the surveyor did not first obtain this order, he could be refused admission, for he is not given any power to enter under section 25, since he could not plead that he was bound to report (though we could not build so long as *we* delayed him), nor is he entitled without an order to enter to collect evidence against us when we have built, for on this analogy no home would be sacred against the policeman. Section 306 does not apply to this case, for, as we see, the surveyor has no right to enter, and the punishment there enacted for obstructing officials relates only to obstruction of persons entering to carry out some practical work (*see Wheatcroft* v. *Matlock*, 52 L. T. [N.S.], 356, 60 J. P. 490, 6 W. R. 432; and *Lamacraft* v. *St. Thomas*, 42 L. T. [N.S.] 365). (The surveyor could not enter under sections 41, 102 or 119, which relate only to nuisances, smoke, and bad victuals.) He might perhaps enter under colour of section 102 (Nuisances).

As to the magistrate's power to refuse the order, compare *Robinson* v. *Sunderland* on s. 305 (*q.v.*) with *Vines* v. *North L. C. S.* 63 J.P. 244, on s. 102. As to connecting, we could not refuse to connect the drain with the sewer, and the local authority could enter forcibly to do this (*Searle* v. *Bennett*, *Times*, December 1, 1877).

(*m*) *Need reasons be given?* (par. 56).

The answer is in the negative (*see Nicholl* v. *Epping*, 1899, 1 Ch. 844, where no reason was given, and yet the order as to privy was valid), and this is so even though a reason is asked (*R.* v. *Sykes*, 1 Q.B.D. 52; *Ex p. Smith*, 3 Q.B.D. 374).

In those cases the discretion was a judicial one, here it is either administrative or legislative—*i.e.* to act or enact. So here, *a fortiori*, no reasons need be given. Who, *e.g.*, ever heard of Councils which decided to build a bridge, or trustees who exercised a discretionary power of sale (Lewin, 488), or freemen who voted for aldermen (*R.* v. *Mayor and A. of London*, 3 B. and Ad. 255), or local authorities who made by-laws (Comyns' *Digest*, "By-law"), being obliged to give reasons to the public? (*Masters* v. *Pontypool*, 9 Ch. 684, is not *contra*).

(*n*) *Subsequent* (*even late*) *ratification by Council validates* (par. 60).

In *Austin* v. *St. Mary, Lambeth* (27 Ch. 388) the Board were, under the Metropolis Management Act, 1855, section 76, given seven days after receiving notice from the building owner, in which to make orders as to drains. The Act gave the surveyor no power to do so. In October the surveyor refused to sanction Aylesbury pipes. On the 5th of November notice was given by the building owner to the Board, the surveyor still remaining of the same opinion. Five weeks later, in December, *i.e.* a month after the statutory limit, the Board gave notice to the plaintiff to put in "the best stoneware pipes, materials to be to the satisfaction of the surveyor" (observe they said nothing about Aylesbury pipes). The plaintiff put in the Aylesbury make, and the Board thereupon gave notice that they would pull them up. The Court gave judgment for the Board. In the argument the lateness of the order was not pleaded.

This case looks curious at first sight, for it appears as if the December order was out of time, and did not forbid Aylesbury pipes. It seems to me that, if the surveyor's order was the order, then these two matters are explained; and further, the case shows that subsequent ratification of an order made without authority by a surveyor will make it valid, even though the ratification comes later than the due date for an order by the Council. If the December order is the order, then it is hard to explain why its lateness was not pleaded. But I think the ratification must not be unconscionably late.

(o) *Reasonable time.*

Orders must be given in reasonable time (par. 63).

The cases of the *Hattersley* v. *Burr* class, in which by-laws were voided because they expressly required a long delay, though in other respects distinguishable from cases where it is attempted to cure a *statute* by construing it, rather than to kill a by-law by voiding it, nevertheless show that the Courts do not approve of unconscionable delay. Now the Courts will construe a statute so as to make it reasonable, if they can do so without overstraining the language. But I think I can adduce cases more to the point, in which where documents or statutes are vague as to the time within which an act shall be done, the Courts insert the little phrase "within reasonable time."

In cases as to delay in prescribing building lines (*e.g. Newhaven L.B.* v. *N.S.B.*, 30 Ch. D. 370), we are told that the builder need not wait; but our case is not so strong, for there prescription is only a possibility; here orders as to drains are at least expected by the Legislature.

In *Bradley* v. *Greenwich B.W.* (3 Q.B.D. 388) we are told by Cockburn, C.J., that if the Board do not apportion sewering expenses within a reasonable time, they can be compelled by *mandamus* to do so, though the Act laid down no time limit. The other proposition as to limitations laid down in that case will, if considered, be seen to be irrelevant.

So, again, the compelling of better sewers for private streets must be done as soon as the sewers vest, or the authority will be presumed to have been satisfied, for, as the Court said, a statute is construed so as not to be unduly unreasonable (1887, *Bonella* v. *Twickenham*, 20 Ch. D. 66).

In *R.* v. *Dulwich* (18 L. T. [O.S.] 183), Lord Campbell, C.J., thought that powers given to the founder by the Crown incorporating a charity which authorised him to make rules could be exercised after seven years. Patterson, J., agreed, after some doubt. Coleridge, J., remarked that such rules must of necessity be later than the incorporation. This case does not rest on "standing by."

So, again, in private matters. In trusts for sale reasonable speed is implied (Lewin, 485)—(this does not rest on "standing by") and disclaimers of trusts must not be made unduly late. In contracts—as, *e.g.*, sale or return of goods—return within reasonable time is presumed, and so in all contracts acceptance of an offer must be made within a reasonable time.

Some, but not quite all, of these cases rest on the equitable doctrine of "lying by" or "standing by." If the authority by its delay encourages the builder to act upon the expectation that it has no intention of exercising the power to make orders, but is content to trust him to do what is right, and the builder has begun his work believing, as he has at least some right to believe, that he need not legally wait any longer, the matter comes under the rules as to "standing by" laid down by Lord Eldon in *Dann* v. *Spurrier* (1802, 7 Ves. 231, 6 R.R. 119) (*see* also *Encyc. L. E.*, vol. i., "Acquiescence," p. 92).

On the other hand, Judges are not impliedly forced to give their judgments within a reasonable time (Max.)

I have come to the conclusion that, especially in the face of this legal authority, the cases of *Rudland* v. *Sunderland*, and *R.* (*pros. Veitch*) v. *Newcastle*, quoted in my previous lecture, do not apply.

The case of *Rudland* v. *Sunderland* (52 L. T. 617) is not in point, for there not only was the requirement as to the period of waiting left vague in the by-law, but there was also a provision that no building should be begun until the whole road had been kerbed by other frontagers. As this might never have been done, it might have forbidden building altogether. It would then have been useless for the Court to have tried to make the one part of the by-laws reasonable and therefore valid by reading into it the words "within reasonable time" if the other remained bad, and would frustrate their beneficent revisal because it would delay the builder for ever. They therefore did not do so.

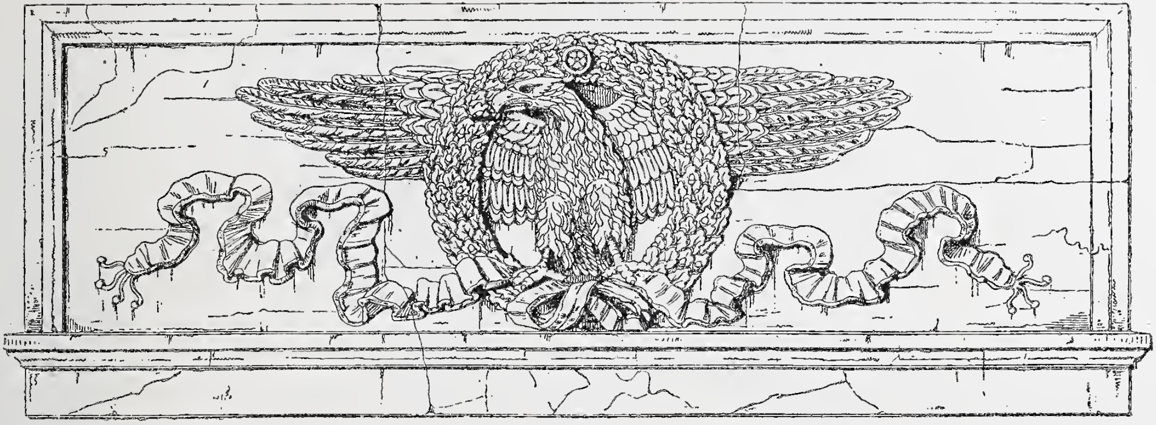
In *R.* v. *Newcastle* (1889, 53 J.P. 788, 60 L. T. [N.S.] 963, at p. 966), the Judge said that, but for section 69 of the Newcastle-on-Tyne I.A., 1870, which required the Corporation to approve or disapprove of the intended new building within twenty-eight days, the Corporation could have delayed the builder for an unconscionable time. It might, therefore, be argued that had the twenty-eight days' limit been left out, the Court would have said that, though unreasonable, the Act required him to wait for as unconscionable a time as the Corporation thought fit to delay him; and that since statutes must be obeyed whether they are reasonable or not, the builder must exercise the virtue of patience. The only answer to the judgment thus cited is to say it is an *obiter dictum*; the case was not decided on the grounds there mentioned. Indeed, the Times Law Reports (section 5, T.L.R., 467) does not report them at all.

I think, therefore, that on general grounds of standing by, and also under the *Hattersley* v. *Burr* class of cases, and the rule that a statute be construed reasonably, the authority cannot unconscionably delay; and I point to the particular cases as to building lines, apportionment, and sewering cases and *R.* v. *Dulwich*, and the law quoted as regards private trusts and contracts, and the equitable doctrine of "standing by," as proving this.

If the order comes late, and the builder can, without spoiling his previous work or making previous expenditure useless, obey it, he must perhaps do so, unless the effect of combining his system already laid and the ordered system would be an absurdity. He might well be reasonable, though he takes care not to suffer from the delay of the Council. If, however, my contention that orders must be given within reasonable time can be supported apart from the doctrine of standing by, then the builder may refuse to consider the late orders at all.

(2) *What is a reasonable time?*—Some idea of what would be an unreasonable time can be formed from *Hall* v. *Nixon* (L. R., 10 Q.B. *per* Lush, J., p. 160), where the Court said: "A by-law which might prevent a man from doing anything for two months, I should say was unreasonable." Now approval of buildings, which was there in question, would take a longer time than approval of drains, so perhaps even a less time would be allowed for orders as to the latter. Some allowance, however, must be made for the intervals between meetings of the Council or the Drain Committee.

The times in the statutes may help us by showing with what speed Councils *can* act. In one statute (the M.M.A., 1855, section 76), as we saw in *Austin* v. *St. Mary, Lambeth*, the time was seven days for giving orders as to drains. In the P.H.A. it is one month for the more serious matter of approval of plans. These times have no legal force in this case, but may help us to see what capable persons have considered a reasonable time.



THE SUN'S DIRECTION AND POSITION WITH REGARD TO SEASON: AND ALTITUDE TO DATE AND TIME, TOGETHER WITH SHADOWS THUS AFFECTING LIGHT AND AIR.

By Fred. Wm. Quick.

THERE are two factors to be taken into consideration in Light and Air cases, namely, *direction* and *altitude* of the sun at any time of the day or year. These are more important even than the height of the obstructing building.

The accompanying diagrams show *in plan* the direction of the sun's rays to time at widely different periods of the year. They record the direction and the length of the shadow cast by a 5-centimetre needle set vertically on a drawing-board, fixed for each day with precisely the same compass bearing.

Usually, for the first hour after sunrise and the last hour before sunset, the apparent altitude of the sun is but 10 degrees. The increase thereafter till noon is but small about mid-winter, and equals (90° – latitude of place) *minus* the sun's apparent declination south of the equator – $23\frac{1}{2}°$ at Christmas; to date at other times, as per *Whitaker's Almanack.*

Taking London as 52° N. latitude, noon altitude $= (90 - 52) - 23\frac{1}{2} = 14\frac{1}{2}°$, whence noon shadows *then* are nearly four times the height. All others will be much longer in early morning and as the afternoon advances. Their direction is indicated by the quarter-hour rays drawn from the centre of figure and marked on the hour-angle circle. Successively marking the apex of the shadow affords the parabolic curve crossing the time circle. The figure is that which is swept out proportionally by any other object. It will also be seen that the sun then rises about S.E. and sets about S.W.—the horizontal arc for the day being little more than 90° in this latitude.

At that period the sun does not rise at all on $67\frac{1}{2}°$ N. latitude. Hence, the further north of London one may then travel the shorter will the daylight be. On the contrary, the further south one may then go the longer daylight one enjoys; in Naples, for instance, an hour earlier in morning, and an hour later in afternoon, than in London. And, since Naples is 10° S. of London, the noon altitude will be 10° greater all the year round.

As the year advances towards the vernal equinox the days lengthen, noon altitude increases, and about 21st March = (90° − latitude) for any place on earth. Then the "curve" crossing the time circle approaches nearly to a straight line, all intermediate dates progressively flattening the Christmas parabola, so that the equivalent of Christmas noon is attained about 8.30 A.M. and 3.30 P.M. With the advent of April the noon altitude rapidly increases, during the first week affording a noon shadow = the height of the building casting such shadow. A rapid rise succeeds, so that by 24th May noon altitude = 60°, and shadows = ·577 height, little more than half, the curve approximating midsummer. Thereafter but little difference occurs, except in time, to which reference follows later.

On 22nd June, the noon shadow in London is practically half the height; 60° occurs about 10.45 A.M. and 1.15 P.M.; 45° about 9 A.M. and 3 P.M. 21st July to some extent resembles 24th May—but time differences are considerable, as the table shows; the sun appearing to be before the clock in May, and after the clock in July; the difference in "sun-noon" being about ten minutes, the noon altitude 60° occurring then for the last time in the year.

Throughout August the sun declines in altitude, but *gains* time, these two causes combining to accelerate the disappearance of the major altitudes until, with the entry of September, the last 45° occurs at noon.

The horizontal arc, but 90° at Christmas, expands to 180° towards the end of March, and further to about 270° at midsummer; contracting once more to 180° near the autumnal equinox, and shrinking further throughout October and November till Christmas.

Time Differences.—The sun and clock *agree* only on 15th April, 15th June, 2nd September, and 26th December. The question as to how long such may be the case belongs to Astronomy. *Whitaker's Almanack* supplies useful matter, thus:

The sun is *after* the clock

11th February nearly $\frac{1}{4}$ hour.
27 July nearly $6\frac{1}{2}$ minutes.

The sun is *before* the clock

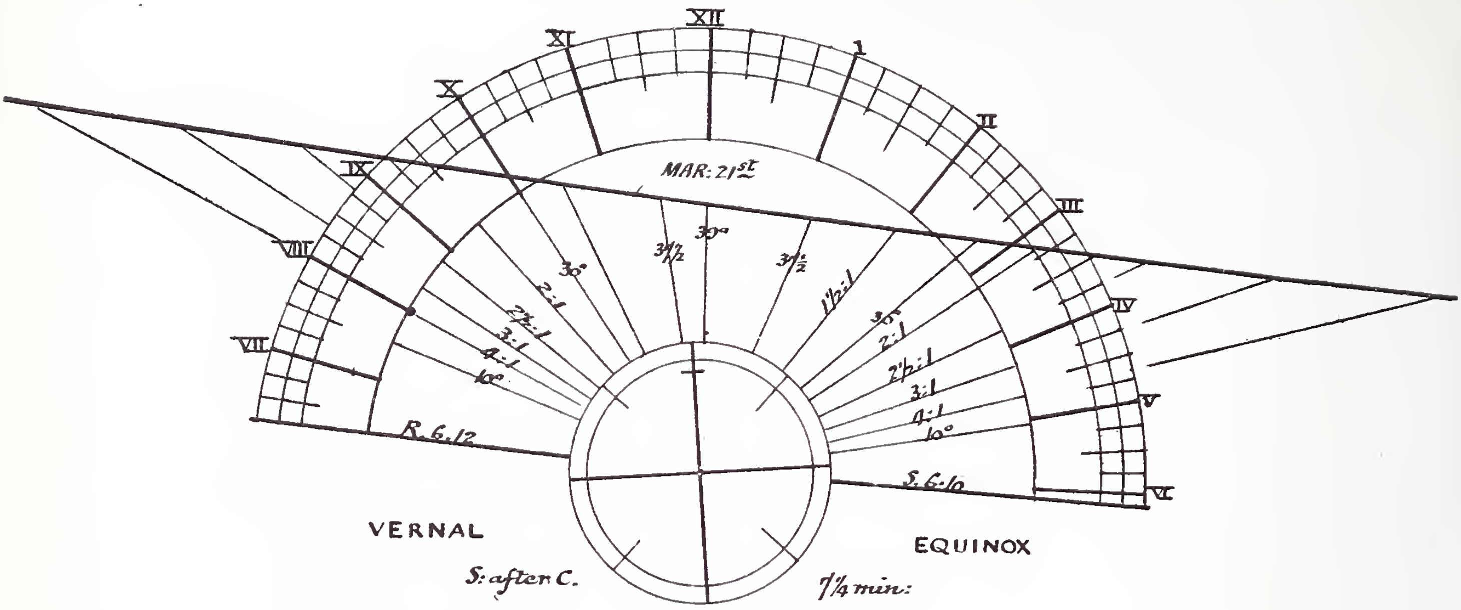
15th May nearly 4 minutes.
3rd November nearly $16\frac{1}{2}$ minutes.

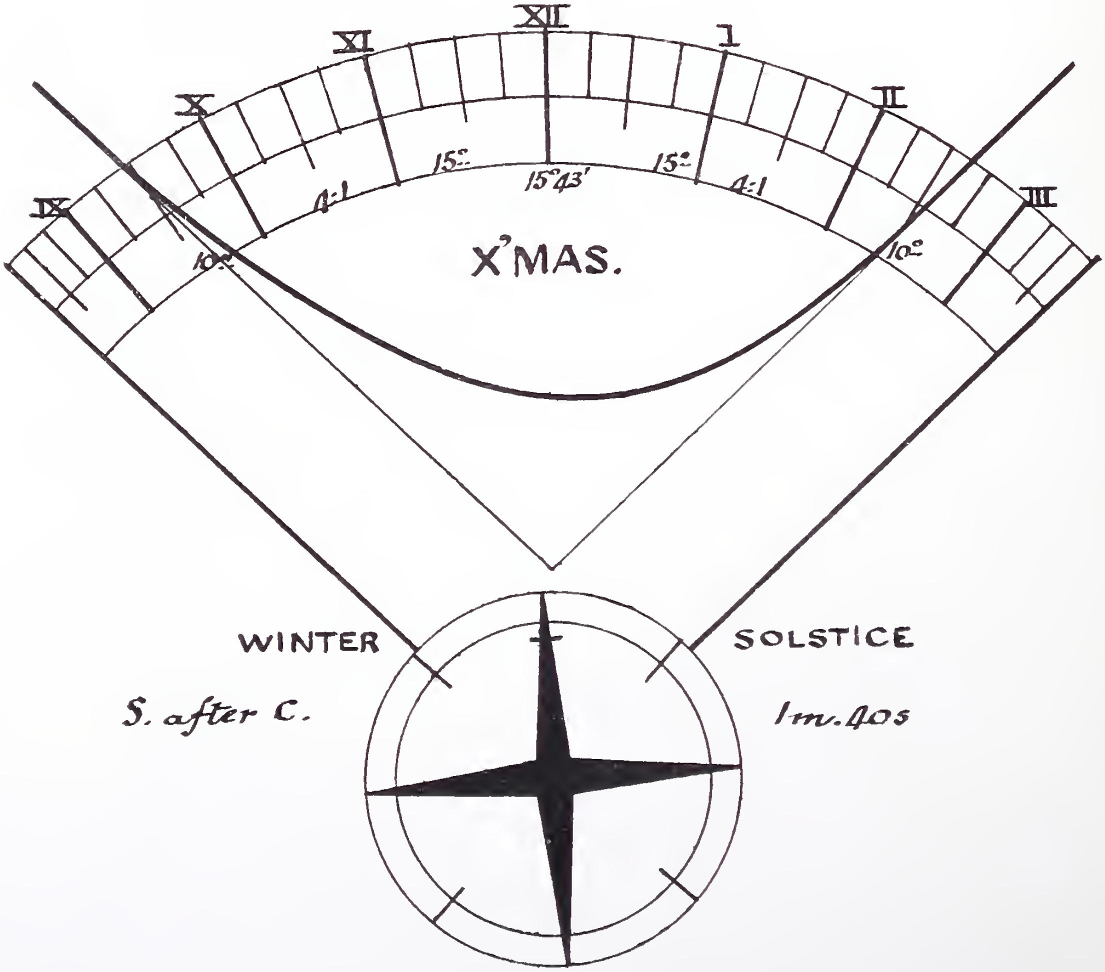
Briefly, one has to consider a globe rotating on its axis, travelling along a path slightly elliptical; such path being laid on a plane tilted $23\frac{1}{2}$°; and, apparently, in addition thereto, certain perturbations of movement and *orbit*, which belong to the domain of Astronomy.

The action of all these effects combined is slow—slower than the Court of Chancery; affording time enough for both the obstruction and the obstructed to disappear in the course of nature, and thus leave nothing whatever to grumble at.

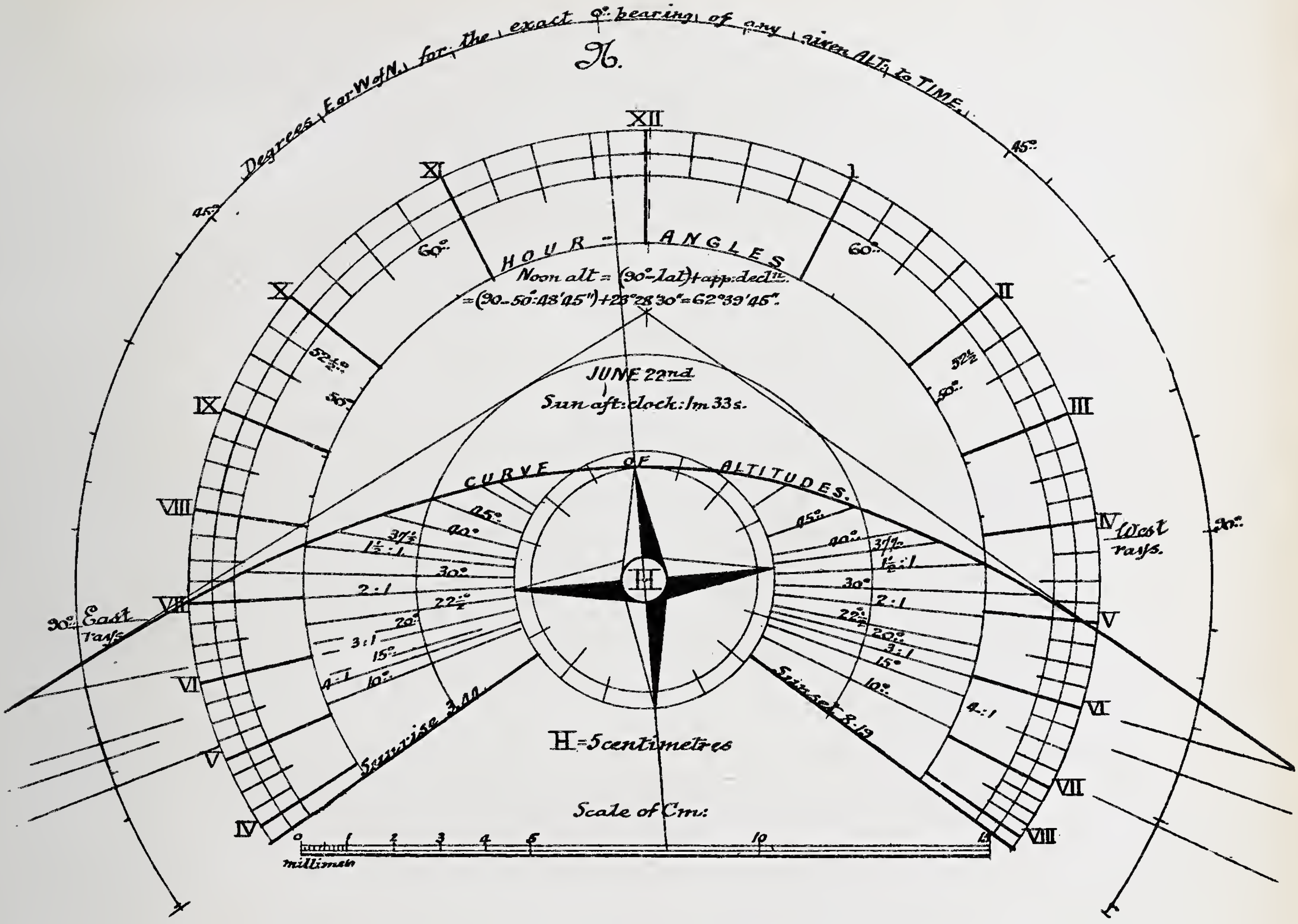
If, however, the method, thus outlined, enable anyone to avoid tedious litigation, or to checkmate a fraud, then such may prove useful to both client and architect.

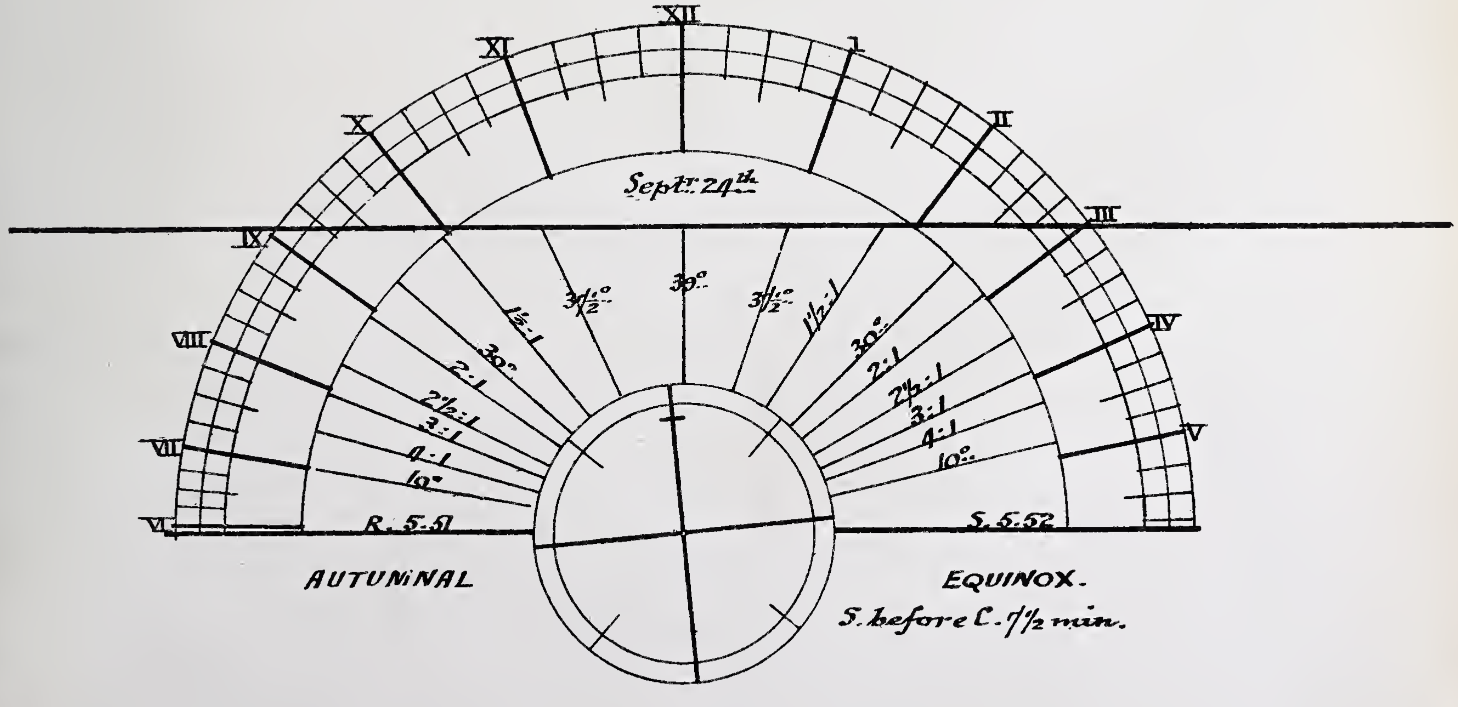
[*For tabular form, see page 507.*]





C. F. KELL & SON, PHOTO-LITHO. 8, FURNIVAL ST HOLBORN, E.C.


Degrees E or W of N. for the exact ° bearing of any given ALT. to TIME.
N.
45°
45°
90°
90°
XII
XI
1
X
II
IX
III
VIII
IV
VII
V
VI
VI
V
VII
IV
VIII
60°
60°
52½°
52½
50°
50°
HOUR - ANGLES
Noon alt = (90°-lat)+app:decl.n
=(90-50°:48'45")+23°28'30"=62°39'45".
JUNE 22nd
Sun aft: clock: 1m 33s.
CURVE OF ALTITUDES.
45°
40°
37½
1½:1
30°
2:1
22½°
20°
3:1
15°
4:1
10°
45°
40°
37½
1½:1
30°
2:1
22½
20°
3:1
15°
10°
4:1
East rays
West rays
H
Sunrise 3.40
Sunset 8.19
H=5 centimetres
Scale of Cm:
0
1
2
3
4
5
10
15
millimetres


XII
XI
1
X
II
IX
III
VIII
IV
VII
V
VI
Septr. 24th
30°
3½°
3½°
1½:1
1½:1
30°
30°
2:1
2:1
2½:1
2½:1
3:1
3:1
4:1
4:1
10°
10°
R. 5.51
S. 5.52
AUTUNINAL
EQUINOX.
S. before C. 7½ min.

1902	4 : 1	3 : 1	2½ : 1	2 : 1	30°	1½ : 1	37½°	45°	52½°	60°	—
January 21st	10 a.m. 2 p.m.	noon	Feb. 1 noon								
February 16th	9.40 3.15	10 a.m. 2.40 p.m.	10.35 1.50	noon*							
March 1st	a.m. p.m.	9.30 3.15	9.55 2.45	10.45 1.45	noon	8th noon					
March 16th	8.15 4.45	8.45 4.5	9.10 3.40	9.45 3.5	10.20 2.30	11 a.m. 1.50	noon				
April 1st	7 a.m. 5 p.m.	7.45 4.35	8.10 4.15	8.45 3.40	9.10 3.20	9.40 2.50	10 a.m. 2.20	noon			
April 21st	6.35 5.25	7 a.m. 5.5 p.m.	7.25 4.35	8.20 4.5	8.40 3.45	9.5 3.25	9.30 2.50	10.30 1.40	noon 28th		
May 21st	5.40 6.10	6 a.m. 6 p.m.	6.30 5.30	7.5 4.50	7.25 4.30	7.50 4.5	8.5 3.45	9 a.m. 2.50	10.45 1.45	noon	
June 21st	5.35 6.25	6 a.m. 6 p.m.	6.30 5.30	7 a.m. 5 p.m.	7.20 4.40	7.45 4.20	8 a.m. 4 p.m.	9 a.m. 3 p.m.	9.45 2.15	10.45 1.15	noon = ½ height approx.
July 21st	5.50 6.20	6.20 5.55	6.40 5.35	7.10 5.5	7.35 4.40	8 a.m. 4.10	8.25 3.50	9.15 3.5	10.5 2.10	11.45 12.20	
August 21st	6.30 5.20	7 a.m. 5.7	7.25 4.45	8 a.m. 4.10	8.20 3.50	8.45 3.25	9.5 3.5	10.20 1.55	noon 50°		
September 10th	7 a.m. 5 p.m.	7.30 4.30	7.50 4.10	8.20 3.30	8.45 3.15	9.25 2.40	9.45 3.20	noon			
September 21st	7.15 4.30	7.45 4 p.m.	8.10 3.45	8.45 3.20	9.10 3.5	9.45 2.40	Equinox noon = 90° minus latitude as on March 21st				
October 24th	8.30 2.50	9 a.m. 2.20	9.45 1.40	noon	17th noon	7th noon	noon Michaelmas				
November 15th	9.20 2 p.m.	10.20 1.15	noon								
December 21st	10.35 1.25	noon alt. = (90° − latitude) − 23½° apparent declination									

* Taken at Brighton: 50° 48′ 45″ N. lat.; 0° 7′ 50″ W. long. (Greenwich).

9, Conduit Street, London, W., 11*th Oct.* 1902.

CHRONICLE.

Sessional Meetings 1902 1903.

Nov. 3.	President's Opening Address.
Nov. 17.	The Drawing of the Ionic Volute. By F. C. Penrose, F.R.S., Litt.D., D.C.L. [*F.*]. A Note on a Fragment of the Parthenon Frieze. By A. S. Murray, LL.D. [*H.A.*].
Dec. 15.	The Palace of Knossos, Crete. By Arthur Evans.
Jan. 19. 1903	Award of Prizes and Studentships. Paper: Science Workshops for Schools and Colleges. By Professor H. E. Armstrong, F.R.S.
Feb. 2.	President's Address to Students. Presentation of Prizes.
Feb. 16.	College Planning. By Basil Champneys, M.A.
Mar. 2.	Election of Royal Gold Medallist.
Mar. 16.	Westminster Cathedral. By Charles Hadfield [*F.*].
Mar. 30.	Fire Prevention. By Horatio Porter [*A.*]. Together with a Report by the Science Committee on the Fire Offices Regulations.
Apr. 20.	Paper, by Edwin T. Hall. [*Subject to be arranged.*]
May 4.	Annual General Meeting.
May 18.	The Formation of the Ancient Style of Egyptian Architecture. By Sir Martin Conway.
June 22.	Presentation of the Royal Gold Medal.

Business Meetings: 1st December, 5th January, 2nd March, 4th May, 8th June.

Trade Commissions.

Members have forwarded to the Secretary copies of the following circular addressed to them:

> *Wellington Works, Battersea Bridge, S.W.:*
> *3rd October* 1902.
>
> Dear Sir,—We beg to address you, although with some diffidence, fearing we may be misunderstood, but will explain our position briefly, hoping to enlist your attention.
>
> We are manufacturers of varnishes, colours, and paints of all kinds, as well as oil refiners, and can offer at prices comparable with equal quality far below those current. The difficulty of getting representatives fully alive to the altered conditions of business, and first ascertaining buyers' requirements, compels us to conduct our business by correspondence, and we are willing to give that consideration which would otherwise be given in representatives' expenses in shape of a liberal commission for all business introduced to us.
>
> We beg you will communicate with us on this subject, and remain, yours truly,
>
> S. Bowley & Son.

The firm in question has doubtless acted in ignorance of the difference in principle between a profession and a trade. But surely the time has arrived for business firms to learn that architects regard the receipt of such circulars as an insult to their professional integrity.

Light and Air: Mr. Quick's Investigations.

In a letter to the Secretary Mr. F. W. Quick mentions the causes which led him to take up the subject treated in his contribution to the present issue [pp. 505–7], and goes on to say:—

"I saw then that, if one could determine direction and altitude in relation to the object affected, the problem was one in simple trigonometry. Instruments are ever cumbersome and not always applicable. I dismissed them in favour of a simple needle-standard, cut to read decimally the shadow lengths to scale, simultaneously delineating direction thereof. From that I obtained the parabolic curve, and discovered how such varied and reversed. To clear the figure, the hour-angle circle occurred to me as advantageous in emphasising *direction* to time—which Mr. ——— can tell you has proved valuable. There, in a nutshell, you have the evolution of 'shadowgrams.'

"I soon saw how widely such must vary during the year; and I set to work on a series ten days apart throughout the year, so that by comparison of any pair the actual conditions for intermediate dates may be fairly approximated. The bulk of these I have now secured, but I am interpolating yet further in view of meeting any possible question which may arise, since there are some further curious points to determine. As I have advanced it to a definite certainty, I felt warranted in proffering thus much briefly—and trust that the future may enable me to enlarge its usefulness, so that the same may merit its record in the Institute Journal.

"If it meet with approval, an extension may be undertaken in order to bring home more completely the effect of time differences, which are remarkably in evidence from 4th November to 14th February—the period of 'low-light' in this country. The simple fact of the sun's culmination varying *half-an-hour* in that period, during which the noon altitude is less than 25°, lends additional importance to the direction of such long shadows, and the period during which such may obscure any premises. There is a site in the town of —— now banned by Ancient Lights: it is a valuable site; the old property has been pulled down, and the site lies waste, because somebody doesn't know how to 'get over it.' I could tell them in a moment all possibilities throughout the year, and how to keep out of the Law Courts, instead of standing idle. There is substance in such shadow."

THE BEGINNINGS OF GOTHIC ARCHITECTURE, AND NORMAN VAULTING.

THE DURHAM EXAMPLE FURTHER CONSIDERED AND COMPARED.

By E. W. Hudson [*A.*].

I AM glad, but in no way surprised, to find that the discussion on this subject has been taken up by a French archæologist, M. le Comte de Lasteyrie, of the Society of Antiquaries of Normandy, who has given his views on Mr. John Bilson's Paper (printed in R.I.B.A. Journal, Vol. VI., p. 289 *et seq.*); and further, that on p. 350 *et seq.* of the present volume we have that gentleman's reply to his critic, with extracts from the criticism.

Focussing the general points into the main issue, the object of that Paper is to try to settle the claims of England as against different provinces of France for the honour of having first produced ribbed vaults in Western Europe; and on the actual date of the specimens at Durham Cathedral—as to which a bold claim is made—issue with the author is joined. Mr. Bilson puts forward *c.* A.D. 1104 for the oldest portion, and the French critic, *c.* 1133. These being the two dates which Rickman assigns as limits for the period of erection of the cathedral, to what intermediate dates must the several classes of its vaulting be assigned?* There is, as usual, much to be said on both sides, and it is a privilege to weigh the evidence and set down here a few notes *pro* and *con* after so doing, offering my own impressions for what they are worth, until an English expert shall take up the subject. The importance of the question may be sufficient excuse.

The ground is to some extent cleared by both parties granting that a leading part was taken by the masons of the Ile-de-France in the rapid *development* of Gothic form and moulding. But the last word has not been said as to whether that school is entitled to claim more than that. The primitive forms of vaulting truly did linger to a later period elsewhere in France. (*Obiter dictum.*—In the matter of an early date for moulding voussoirs of nave and choir arches, I should claim priority for England; and no less true is it that vaulting ribs were much ornamented from about the middle of the twelfth century though retaining Norman character.) But it is a claim for admission of remoter antiquity in this regard which here concerns us.

I doubt whether the claims of various provinces can ever be absolutely decided without fresh data, yet the consideration of them is not without interest and advantage. Dates suggested by the writers of the eighteenth to the third quarter of last century now seem much disputed—Dugdale, Wren, Stukeley, Grose, Walpole, Whittington, and others. Even Cotman, Pugin, Britton, Billings, Scott, and Viollet-le-Duc are put upon trial, and much closer observation and more careful research are upsetting old *in camera* and other antiquarian conclusions, but substituting sometimes very little more of exact knowledge. To have sixty years knocked off the date of Waltham Abbey, the glamour of Harold's name swept away, is, as Mr. Bond says, "portentous," and to the student somewhat disheartening, though such view in the interest of truth must go by the board.

Less than a century after the removal of the fear of the end of the world, so energetic and widespread was the church-building movement, so numerous, diffused, and varied the examples, that it is not surprising if the predilections and bias of different archæologists, each jealous for his own quarter of the field, now operate against entire agreement upon comparison of notes; while antithetical conclusions are not seldom arrived at. What is wanted now, if the question is ever to be solved, is a commission of unbiassed experts, with patience to take evidence *pro* and *con*, to collate deductions, and to put the result in a concise form *ex cathedra.* Such, however, would be *rara avis in terra.*

Notwithstanding admitted rapid development at a later period in the Ile-de-France, we may, as to design and dimension, agree that Romanesque architecture in Normandy was, at the opening of the twelfth century, in advance of the Domaine Royal, Burgundy or Anjou; and though it is not strange that the provinces nearest to Italy were first inspired by outside influence from the south-east, adopting the pointed arch *in vaulting* only at an early date, it is strange that descendants of the piratical settlers in Neustria were so much to the fore in construction. As I said in a former Paper, this was undoubtedly very much due to Lanfranc and his school arriving from Pavia and taking up duty in 1042, or the result of his revisiting Italy in 1050, at which very time the great ribbed vault of the nave, 40 feet span—probable prototype of all Gothic vaulting—was being constructed at the church of Sant' Ambrogio, Milan.*

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* M. de Lasteyrie condenses his opinion thus:—"À part peut-être dans les bas-côtés de la nef, il n'y a pas, je crois, à Durham, une seule croisée d'ogives qui puisse être antérieure à l'an 1133."

Viollet-le-Duc says:—

> "Les Normands devinrent promptement d'habiles constructeurs, et dans leurs édifices de l'époque romane ils avaient fait des efforts remarquables en ce qu'ils indiquent une grande indépendance et une perfection d'exécution exceptionnelle. Déjà *vers la seconde moitié du XIIme siècle ils faisaient des voûtes en arcs d'ogives à arêtes saillantes*, alors qu'en France on ne faisait ces sortes de voûtes que dans l'Ile-de-France et quelques provinces voisines."

The approximate date above given favours M. de Lasteyrie's views in regard to Durham, but is more than a generation too late for Mr. Bilson's claim. The exception of the Isle of France and some neighbouring provinces, however, is an extensive one.

Another feature of advance was the division of the capitals, and is thus alluded to by the same writer:—

> "Avant cette époque ils savaient le parti qu'on peut tirer des sommiers, et ils divisaient leurs chapiteaux, sinon les supports verticaux, en autant de membres qu'ils avaient d'arcs à recevoir."

I think the presumption is that "arc" in the above quotation applies to semicircular vaults (*en plein cintre*), but it is to be assumed from the context that diagonal ribs (*nervures*) are not intended at all in this paragraph; and division of a capital into rectangular parts on plan may only mean for the reception of the main arcade, cross-ribs of aisles, and for the wall-shaft next the central alley, running up for tie-beams of the main roof.

Mr. Bilson's amended claim is, I take it, practically in regard to "*voûtes en plein cintre à arêtes saillantes*" (*nervures*), as being from the first onset in existence at Durham *not later than the fourth year* of the twelfth century (aisles), and *en ogive* about the middle of the third decade, in wide spans.

At the first blush it certainly does not seem likely that the inception or execution of a wide-span ribbed vault could be adjudged to England, especially in the early years of the twelfth century.

Nevertheless, the French writer just quoted goes on to speak of the equally advanced state of English work at that time, and gives an instance:—

> "Ainsi dans la partie romane de la cathédrale de Peterborough les voûtes des bas-côtés du chœur qui s'ouvrent sur les transepts sont, pour l'époque, conçues et exécutées avec autant de savoir et de précision que celles du domaine royal de France, de la Champagne, de la Bourgogne et du centre."

This is not conceding much to us, except as to the Domaine Royal.

Granting there are signs of advancing style at Peterborough, yet the ribbed vaults there referred to were, according to documentary evidence, constructed between 1125 and 1140, or say *c.* 1135; so that they do not help the evidence for very early ribbed vaults in England over wide spans, and if these narrow-span semicircular vaults are to be considered "advanced" specimens, what must be said of those in Durham nave and transepts, which we are asked to consider as contemporary or even somewhat earlier? By analogy we might put them at least as late as *c.* 1150. M. de Verneilh dates those ribs after 1150, and considers them additions; but so far as chronology is concerned this is unnecessarily late.

In many respects Peterborough and Norwich are looked upon as among the least advanced of English cathedrals; and, so far as I know, there is no remoter date at Peterborough to confirm even the modified claim in Mr. Bilson's reply to M. le Comte for early development of rib-vaulting in connection with *semicircular work*.

Morienval, on which at present the French claim for priority in *pointed* vaults was based, has now been brought down from 1110 to *c.* 1123, if not, as some assert, to 1135. Its large torus-moulded diagonal rib favours an earlier date than that. Fig. 1 is a sketch plan of one bay of its narrow ambulatory.

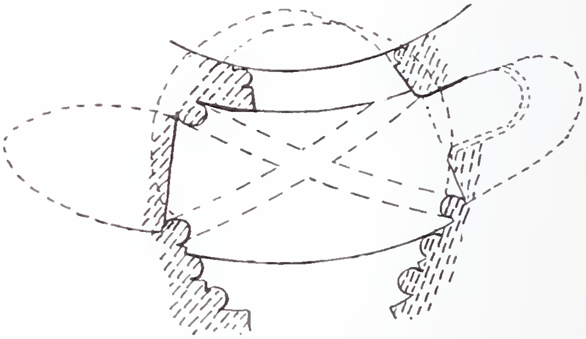

FIG. 1.—MORIENVAL.

Incidentally, it would be valuable to have confirmation of the supposed early date for Lessay, which Mr. Bond puts as late as *c.* 1130, this being ninety years after the generally accepted date (1040) for the foundation of the establishment there. Want of space, however, forbids further reference here to an interesting example.

The unsettled state of the kingdom of England (through opposition to the Norman yoke, followed by the war between Matilda and Stephen) was for some time more pronounced than that of the Duchy across the Channel; and we know what primitive and badly constructed work was done in England, even in the royal palaces. The masonry of old Westminster Hall, dating *ante* 1100, is witness thereto, and the falling of cathedral towers built with rubble-filling between badly bonded ashlar laid in poor mortar, &c., does not suggest pre-eminence in solving the problem of the age in vaulting wide spans. Winchester tower fell in

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* Cattaneo.

1107, others followed, and work generally was poor in quality and conception till the bishops got foreign masons over. Wide joints prevailed, even in sound work, up to, and in places even later than, *c.* 1115, when Bishop Roger's masons astonished the observer with the fineness and regularity of the ashlar. But the point is, Was architecture in the North of England in 1104 so much in advance of the Duchy, or any part of France?

Mr. Bilson thinks it was, and quotes Winchester and Worcester crypts as a proof of English preeminence; but surely these were both only groin-vaulted? Do they not show signs of foreign influence in form and detail, probably produced by imported masons, or masons under Norman masters? True it may be, and no doubt is, that after the civil war was over a vast amount of fine work was carried out, and elaboration of detail and moulding rapidly took place. The chevron, such as we see on the ribs at Durham, the billet, the scallop, and the bird-beak, coupled with much-moulded archivolt, became general, till the Early-English style sprang into being.

Mr. Bilson does not claim for Norman architects the invention of Gothic architecture (p. 350, *ante*), like Mr. Bond,[*] but he says he does believe that "the Norman architects adopted and developed the ribbed vault in association with the round arch alone, *independently of any influence from the Ile-de-France*, that architecture was more advanced in Normandy and England than in the Ile-de-France, and that vaulting still extant at Winchester and Worcester proves it." (The italics are mine.) Did they do it with diagonal ribs, and where and at what date was it done? Was not ribbed vaulting of earlier date than any in England constructed on the Continent, and, if so, which centre, or which outlier, was the first? *Hic est, aut nusquam, quod quærimus.*

It is not clear why, because too much has hitherto been accorded in the way of preference to the Ile-de-France, and because there is no objection *a priori* to the theory that other provinces developed the rib vault as early, or earlier than that province, we should assume that to be strong positive evidence that they did so. It is negative evidence that Mr. Bilson deprecates. The lack of grandeur and dimension in the nave of a rich abbey like Saint-Germain-des-Prés[†] (as compared with English churches) is the very fault that induced Norman bishops in England to pull down Saxon churches, and any exceptional reticence in that design does not, to my mind at any rate, argue favourably for Durham's claim to preeminence by half a century.

It is true that Parker, editing Rickman,[*] says he thinks Normandy was not in advance of England at all, which practically at an early period puts England in the front place. But Gould[†] says, "*None of the Norman buildings were vaulted or intended so to be*, and all vaulting on Norman piers and walls is subsequent." (Italics mine.) This assertion, though by a capable writer in many respects, is too sweeping in character to be accepted seriously, for all large Norman ecclesiastical buildings from very early date may be said to have been sought to be vaulted (especially where stone was plentiful), and were so covered whenever span admitted, although narrow groined vaults only were ventured upon in early examples.

Herren Dehio and Von Bezold believe that the Normans intended to vault all the main spans of their churches.

I have no doubt that great changes in workmanship were seen when the monk gave place to the lay mason; but can that period be ascertained with any general certainty? The Guilds arose about the middle of the thirteenth century, and master masons took control of the piece-work men, whose marks on the face of the stone showed the extent of each man's labour. But masons'-marks were used from earliest ages, and the study of them is but in its infancy.[‡] Did the monks use them as well as the laymen? We are told that St. Hugh went about in a mason's blouse, carried material and worked alongside the monks on buildings, and that he reproved an aristocratic friar who thought his gentle birth made it *infra dig.* to carry the hod, by taking it and going up the ladder himself, and on coming down passed it to the brother, saying: "Now you need not fear that your mates will look down upon you, seeing I have set the example and carried the hod myself."

Probably even later than the end of the twelfth century the monk was priest and artificer, and the superior members of the hierarchy, being of the travelled and learned class, disseminated new ideas from diocese to diocese, and monastery to monastery; but the very dual and different nature of service in church and workshop prevented the highest development of craftsmanship. In the thirteenth century, when laymen of the Guilds of Freemasons were superseding the monks, the fineness of the work was more and more marked. Yet even between Bishop Roger, whose highly finished masonry was remarkable, and Bishop Poore, Joscelin, or Lozinga, there was a period of nearly a century of varied work and workers, wherein all kinds of detail and ornament, as well as plan of abbatial establishments, were produced throughout the country; nevertheless, foreign influence, as in the work of alien priories of Cistercian and other orders, gradually passed away.

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[*] JOURNAL R.I.B.A., 3rd Ser., Vol. VIII. p. 272.

[†] The sanctuary there, however, is, according to M. Lefèvre-Pontalis, as late as 1163, and Gothic construction is so far evolved as to have adopted the flying buttress.

[*] *Gothic Architecture*, p. 37.

[†] *History of Freemasonry*, vol. ii. p. 277.

[‡] It is not clear why Viollet-le-Duc restricts the use of them in France to "le douzième siècle et le commencement du treizième," or to "l'Ile-de-France, le Soissonnais, le Beauvoisis, une partie de la Champagne, à Bourgogne, et dans les provinces de l'Ouest." Vol. vi. p. 454, *Dictionnaire*."

DURHAM.

In considering the corner-stone of Mr. Bilson's edifice of contention for precedence for this fine Romanesque example, there are, as already stated, twenty-nine years in dispute (1104–33). As a general statement it may be said that Mr. Bilson believes the ribbed vaults are coeval with the erection of the walls. He asks (p. 345): "Are these high vaults the original covering of the church?" and asserts that "every part of the church was covered with ribbed vaults between 1093 and 1133." Again, speaking of ribbed vaults over main spans: "The vault over the north transept of Durham is probably the oldest of such vaults still existing." For the old vault of the choir was replaced later on, and Mr. Bilson assumes that the first one also was ribbed (p. 311). He says, further: "The Normans, before the end of the eleventh century, were already covering their choirs with simple groined vaults." But where did they so early use ribbed vaults? Not in choirs, naves, and transepts; but in crypts, tower basements, ambulatories, and other places of narrow span, the earliest examples, whatever the date may be, would be found. If all the vaulting at Durham was executed in the first onset, and all except the choir vault remains to this day, how is the extreme difference in detail and ornament to be accounted for? If the monks constructed the nave vault—*i.e.* the latest portion of it (except, of course, Bishop Pudsey's work), they outdid the master-mason who preceded them.* The chapter-house rib shows a marked advance as to ornament over the nave, yet they are dated almost synchronously.

[*En passant*, a study of Bishop Alexander's vault at Lincoln may show some correspondence, though it is of later date than that claimed for Durham.]

M. le Comte de Lasteyrie, who has not studied on the spot, adopts Mr. Gould's view, and thinks the whole vaulting is of subsequent date to the walls. In the absence of a fire, a timber roof (unless temporary, awaiting a clerestory) would hardly be replaced, say, twenty-five years after erection; yet one must own to the short life of some early Norman churches, entirely or partly pulled down for one reason or another.*

A change of design as to mode of roofing actually made during construction would, if evident, give some probability to an earlier date, but I do not think this can be clearly shown, although Mr. Bilson thinks something of the kind occurred in the south transept. The artificer in those days thought in stone, and designer and executant were often identical. Hence variations in the general plan of a cathedral and in details of construction were frequently made, and in some cases the fact is apparent in the work even now, but not always. In the Regulations of the Guild of Masons of Strasburg,† needless interference with a preceding member's unfinished work is forbidden, and no doubt this was a general rule with the guilds.

If M. de Lasteyrie would make a personal examination of the jointing, the dressing of the stone, the method of junction of the ribs, the fitting of the extrados, the web, the outline of the groins, the profile of the diagonal ribs, and particularly the masons' marks, he might come to a different conclusion from that formed upon inspection of the Fig. 12 in Mr. Bilson's original Paper, upon which largely his views are based. Architectural evidence there is very conflicting, but the masking of part of the springers is not a strong argument for reconstruction. I think the rude lozenge form of keystone is suggestive of early date; ‡ but the number of members and the ornament in some of the rib-mouldings, leaving out of account the great width of span, are against it. I think the points named are anomalous and contradictory; yet a suggestion at least of untradesmanlike work, in conjunction with an advanced idea, is not out of reason, and a pertinent case is William of Sens' masonry at Canterbury.

Mr. Bond doubts the record of Symeon's continuator,§ that Flambard had finished the high nave vaults (*c.* 1128) at the time of his death;* and, as to the choir vault dating *c.* 1100, he says that if allowed it would prove that "English builders were a generation ahead of their Romanesque brethren anywhere on the Continent" (R.I.B.A. JOURNAL, Vol. VI., p. 20). Mr. Bilson, however, asks for this in regard to their pre-eminence. "*Hoc quoque curo.*" How are the chroniclers to be disposed of? Mr. Bond believes "their likes and dislikes" may account for false statements.

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* Till de Carileph's death the monks, we hear, were only doing the domestic buildings; after that they are said to have taken up the church work (as to which it is probable the aisles even were not then vaulted), and had advanced as far as the nave in the three years' interregnum; then Flambard came and carried up the nave as far as the vault by 1128. (By what masons—monks or laymen?) Then we hear the monks again came into requisition still later.

* Professor Freeman says: "The Norman prelates pulled down and rebuilt the English churches mainly because they thought them too small."

† Clause VIII. runs thus:—"If any one contracts for a work, and gives a plan for it how it shall be, the work shall not be cut short of anything in the design, but he shall execute it according to the plan which he has shown to the Lord, cities, or people, so that nothing be altered on the building, unless it be that the Lords will it so, then may he alter it according to the Lords' wishes, but without seeking undue advantage"—(Gould, *History of Freemasonry*).

‡ Have the nave ribs shouldered keystones? The two churches at Devizes, dated *c.* 1125–30, are probably the earliest with shoulders in the West of England. This favours, perhaps, an earlier date for the aisle vaults of Durham, where the lozenge shapes which are the specific vaults referred to in the footnote, p. 299 *ante*, occur.

§ The wild superstitious legends mixed up with the history do not necessarily discredit dates.

At Durham the order of work was this, viz.:—William de St. Carileph, appointed bishop at the end of 1080, was expelled, and in exile held a position in Normandy from 1088 to 1091, during which period it is supposed he formulated his ideas for a large church. Then he came back to Durham and began the cathedral at the East end. The foundation-stone was laid in 1093. He died in 1096, when part of the walls were up, but could hardly have included the aisle vaults. After three years, in which the work was taken up by the monks, Flambard came in 1099, and carried it on till his death, 1128. Gould says he was a lawyer and not an architect. It is not clear how the reputed son of a priest obtained legal training, but his extraordinary reckless ambition is undisputed. At all events (unless the monks kept on working under him), he knew where to get good help from laymen, both as workers and contributors to the buildings. The ejection of the secular monks may have caused modifications in the design. Is there not a noticeable demarcation yet to be defined in the work of these men? Galfrid Rufus came, 1133 (the limit year in the contested date of vaulting), and he ruled till 1140, and it may be he did extensive work though it found no chronicler. Then Pudsey (1153–93) started the Eastern chapel, which failed structurally, and the dressings were used by him in the new Galilee Porch.

As regards Carileph's work, Gould† says: "The Norman buildings in England offer marked characteristics in appearance to those on the Continent, and if de Carileph brought his design for Durham from thence, all I can say is that it is different in character from anything now to be seen there." But Mr. Bond, in his interesting paper on "Documentary and Architectural Evidence," says of abbeys in Normandy: "There is nothing in the planning, construction, ornamentation that is strikingly dissimilar to the eleventh and twelfth century work in England;" and he instances Durham, Ely, Winchester, and Gloucester there, and the two abbeys at Caen, that at Jumièges and Boscherville across the Channel.

To those who are unable to study these churches, Ruprich-Robert's book may be compared with the drawings in Mr. Bilson's paper, and Blore's plates in Surtees's *History of Durham.*

The natural inlet to England from Normandy for the style seems likely to have been *via* the southern ports, Porchester, Chichester, and Shoreham, to Hants, Sussex, and Surrey; perhaps by Winchelsea and Sandwich, to Middlesex and Kent; and yet, unless we assume that (by Carileph's migration from Christchurch to Durham) the best phases of construction of the period were carried still further overland to the North and East of England, we must admit a second or more inlets from the Continent by sea, perhaps from Bec to some East-coast port, as Lynn, Hull, Scarborough, Newcastle to Durham, and so to Hexham and Carlisle on the West, unless the two latter were inspired from the Western centre of Christianity at Iona, like Lindisfarne, Jarrow, and Monkwearmouth, still older foundations.

It would be a singular triumph for Durham and Flambard if it could be proved that English masons there first produced a pointed ribbed vault in 1104; but I think much more evidence is required in proof of it. Bishop Roger's nave vault at Lincoln was *c.* 1123, and examination of traces against the West towers might afford some light as to details of its construction. If we trust Giraldus and John de Scholby, it was 1141 when Bishop Alexander gave Lincoln a vaulted roof.

Mr. Bilson apportions and dates the Durham vaults thus:—Choir 1104, in Flambard's fifth year, aisles naturally included; north transept before 1110; south transept before 1125. Nave vault 1128–33, *i.e.* from his death to five years after it; but he goes on to say: "He completed the nave *as far as the high vault*" (p. 300), and with the nave naturally its aisles. *But that need not include the vault.* Did it do so? On this the issue hangs. In the two easternmost bays the diagonal ribs are moulded, but in the others a chevron on either side is applied, and these are of the later date. Having Devizes in mind, one can hardly believe that shouldered diagonal-ribs can be found in the first decade of the twelfth century; but if "*soon after*" the tower of Winchester fell (in 1107) the transept aisles there had them, there can be no objection (although there is doubt as to 1104) to putting the date *c.* 1120 for the simpler moulded of the Durham vaults, with the primitive lozenge-shape keystones, which are the sole portions which M. le Comte de Lasteyrie excepts in his opinion that "nothing is anterior to 1133." The nave vaults are essentially different. There the elaborate rib decoration seems to me clearly indicative of late date, and I do not think that the ornament could have been added at a yet later date to existing plain ribs. The zigzags on the edges could not have been cut out of a hollow member, such as exists in the other cases; besides, the difficulty of getting at the work for merely ornamentation makes it unlikely that scaffolding would be erected unless for entire renewal. Nevertheless, the difficulty has, we know, been overcome—*e.g.* by the enthusiast carver who treated the ribs of the Abbey of Saint-Riquier, near Abbeville, in such wise, until his fatal fall from the scaffolding stopped it. Durham, I believe, has later embellishments, added nearer the ground, and, if I am not mistaken, the south door from the cloister has had an outer order of projecting archivolt and column of Transition type added to the Norman orders within the thickness of the wall (see plate in Surtees's *History of Durham*).

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* The walls only, not the vaults themselves. If Malmesbury Abbey, after 1139, is the oldest pointed vault, Durham nave would be of Galfrid's time, to be merely synchronous.

† *History of Freemasonry*, vol. ii. p. 263 (1883).

Now, in the south transept there seems to be a distinct difference in the five courses of masonry lying between the top of the triforium arches and the clerestory window-ledge; they seem rougher than that of the triforium and of the main arcade below, and if none of it has been redressed or refaced, the tooling and masons' marks should be carefully compared. Suppose Flambard's work to end with the triforium arches, and those upper courses and the clerestory itself to be the work of the monks (who had, except perhaps in the interregnum, been up to then engaged on the domestic portions), then the question arises, Did they boldly attempt to build the vaulting at once, and happily succeed, or did they roof with timber, until Galfrid came in 1133? Mr. Bilson thinks that at this stage they intended to abandon vaulting and substitute wood, and perhaps did so; but they either altered their minds (or some one else did), and retrograded to old forms of vaulting. What have the stones to say about this? What—if anything—do documents say of this prelate's building work? So far, it seems, they say very little as to building during his occupancy of the see.

Mr. Bilson can, perhaps, tell us more details than already given—*e.g.*, about the masonry, and whether the walls of clerestory, triforium, and vaulting are the same kind of stone; more details of the material, the size and dressing of blocks next the ribs, the make of the springers,* and, most important of all, the correspondence of masons' marks in various portions, such as vaulting, shaft and rib, compared with wall itself, and whether the voussoirs are tapered radially or not. As I said in a former Paper (JOURNAL R.I.B.A., Vol. VIII. p. 364), further evidence is wanted on the conflicting views expressed regarding rib additions made to groined vaults.

The barrel-vault in the domestic offices should not be overlooked in comparing the marks and the stone used in 1091 with later work.

It does not follow, *a posteriori*, because the choir was revaulted in the style of the period (thirteenth century), that the other vaults are not reconstructions because they are in an early style.* Can Leland's date of 1250 (query, whence derived?) be so certainly out of the question for the nave vault? The answer is that the webs not being ashlar is fair evidence against that date. I scarcely think if ornament of a style of years ago was adopted, the mode of construction would also be revived. The double corbels carrying the springers were probably insertions; in fact, they are admitted so to be. The sub-bays are not all spaced exactly, and the distances vary from the hood-mould of the triforium arches. There are no wall shafts. Yet, if there was once a flat wooden ceiling above the clerestory, it is plain that double corbels (as utilised relics thereof) would have been unnecessary for tie-beams; besides, they are too low even to take struts to a tie-beam at the completed level. (See photograph at head of Mr. Bilson's paper, and fig. 26, p. 315, Vol. VI.)

What may be called the forgery theory—"absurd theory" in Canon Greenwell's opinion—has obtained unreserved credence by John Carter, and although his folio monograph was published in 1801 (by the Society of Antiquaries), it is as well to repeat his version, if only that its error, if clear, may be refuted. Describing the sequence of construction he says (p. 4):—

> "The side aisles both of the nave and choir were vaulted with semicircular arches, groined, and the ribs of the groins carved, but *the nave and choir were open to the timber roof.*" (*Query*, without a flat ceiling, in waiting for the vaults?)

Then, after stating that the first addition to the building was Pudsey's Galilee, he continues:—

> "The vaulting of the nave exhibits the next step in *the change of style. This was the work of Prior Thomas Melsonby* under the auspices of Bishop Poore. The Norman zigzag ornament is used along the ribs of the groins, although the whole vault is pointed."

This would make it between 1229 and 1237, cotemporary with the Chapel of the Nine Altars.

This statement is more specifically repeated in an account published by Andrews, of Durham, in 1833, and attributed to the Rev. J. Raine:—

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* The different pattern of zigzag in some of the lower springers has not been satisfactorily explained. Can they have belonged to an earlier vault, or is it mere caprice in pattern by a change of the masons?

* M. de Lasteyrie thinks the choir aisles were probably reconstructed as well as the choir itself in the thirteenth century, but on the original plan with ribs added (p. 355 *ante*).

I do not think we sufficiently recognise the extent to which Mediæval restorers worked in earlier styles, and occasionally forgot their chronology in moulding and sculpture. There is, or was, a notable instance in the corbel-table of the Romanesque church at Huberville in Normandy, where a grotesque head has a tobacco-pipe in its mouth, in a building dating 350 or 400 years before European knowledge of the herb! The sculpture looks synchronous with that in the remainder of the corbels, and if the blocks were left plain for centuries and then carved, the style does not betray it.

> "The original wooden roof of the middle aisle was removed, and the present groining of stone substituted in its stead by Prior Thomas Melsonby, who evinced considerable taste in associating the architecture of his period with that of a century before his time."

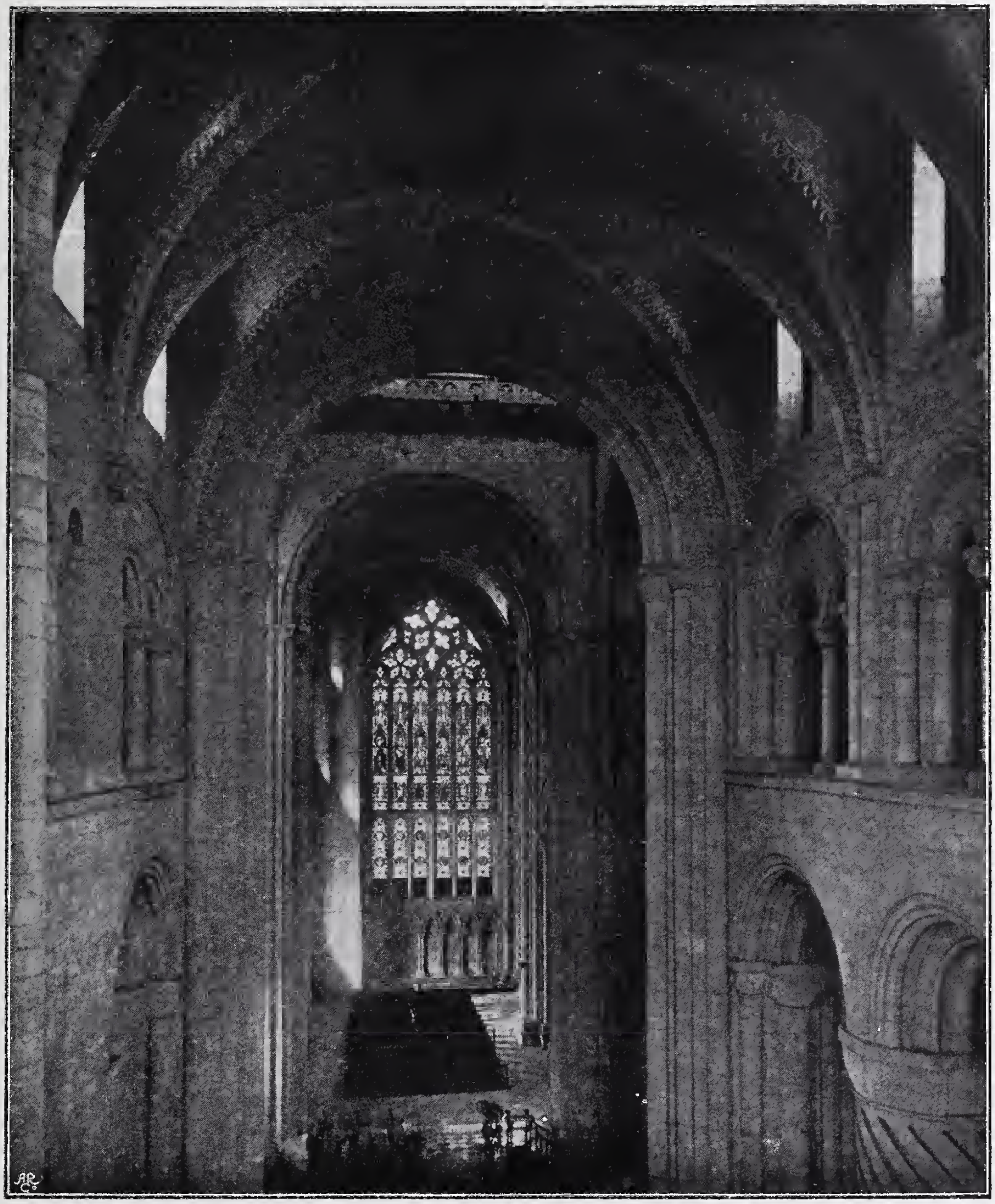


FIG. 2.—DURHAM CATHEDRAL: SOUTH TRANSEPT, LOOKING NORTH.

Canon Greenwell rejects this version altogether, because the work was not in the then prevailing style, and for other reasons of recorded repair to the work later on. But, in the face of many exceptions, one can hardly agree with him, that "the architects of old did not imitate the style of their predecessors."

Reference has been made to the meaning of the word "*testudo*" applied to the disputed work. I do not think it should be restricted to vaulting, but may apply to a ceiling, or overlay, or veneer, whether flat, vaulted, or *en dos d'âne.*

The Canon's note of a difference in the size and nature of the stone used in the nave arcade and wall over it, might well be followed up in all the rest of the cathedral.

Fig. 2 here given is a view of the junction of the south transept with the crossing, looking north. Over the arcade on the east side there are wall-shafts instead of corbels (double at the sub-bay); while on the opposite side (outer wall next the cloister) wall-shafts are absent altogether and corbels are used. The height of both cap and corbel on either side here is right for a tie-beam—*i.e.* above the mouldings crowning the triforium arches (instead of halfway up the latter, as in the nave); and yet, to have had here a flat ceiling temporarily in the transept would have cut off two-thirds of the arch over the crossing; which, as a deliberate effect in ancient work, is improbable, and would be left for adoption by a noble restorer of the nineteenth century.* Even canting the sides as at Ely would not prevent this.

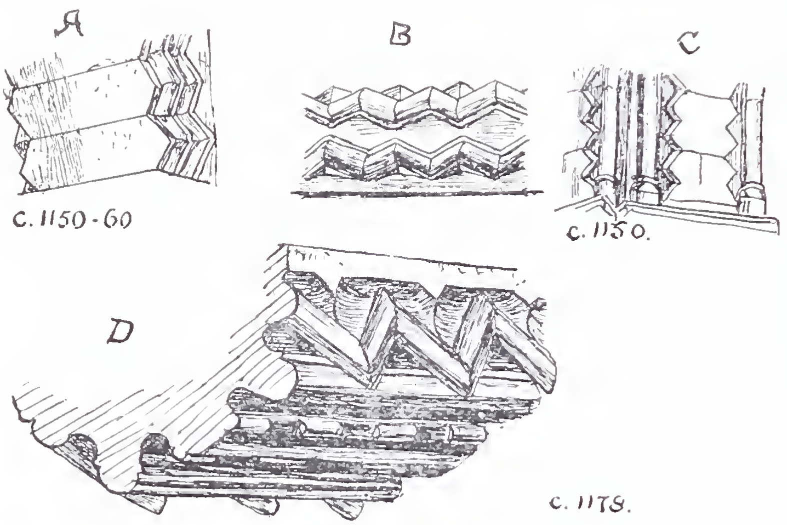


FIG. 3.—EXAMPLES OF ZIGZAG ORNAMENT.

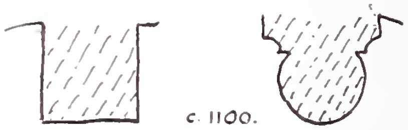
At p. 313, Vol. VI., the east side of the north transept is shown, and, *except in the clerestory and vaulting*, there is correspondence—notably the double wall-shaft in each. This difference in the clerestories may have something important to tell if closely followed.

Mr. C. H. Moore calls the nave vaults "English of the middle of the twelfth century." With a *circa* prefixed it is a pretty safe judgment. But Mr. Moore dates the aisle vaults at Peterborough *c.* 1175–1200.

The mouldings of the ribs, as I have said, are elaborate, and tell against the early date. Examples of similar ornament of ascertained date may be looked out for comparison, and there are striking resemblances to that peculiar springer (shown in the phototype of part of the nave, p. 315, Vol. VI.) in the details at St. Peter's Church, Northampton (A); at Kilpeck Church, Herefordshire (B); and at St. Mary's Church, Leicester (C), fig. 3, dated *c.* 1150–60; and assuming they are contemporary with these springers it would put them into the period of the interregnum, about three years before Pudsey's advent. (D) is from Canterbury Cathedral, date *c.* 1178.

The obtuseness of the zigzag and the rounding off of the salient angle in the nave ribs, are scarcely compatible with early work, though a likely modification by an imitator. I should say, too, that the acutely pointed zigzag was first in date, then the equilateral, and finally the obtuse form, although it must be admitted that in Normandy the two first-named appear in contemporary work.

It must be admitted that in other churches ribs with heavy mouldings worked on them are dated contemporaneously with the rectangular heavy section used at Gloucester, &c., in which cathedral, by the way, German writers say the earliest rib-vaults in England are to be found. This would refer to the crypt (one bay of which is sketched in fig. 4), the diagonal ribs additions after settlements, and the date given only approximate. The heavy zigzag on the transverse rib may be compared with A, fig. 3.



The same difference of opinion exists in regard to the date of the vaultless nave at Norwich. That cathedral was begun in 1096 by Bishop Lozinga, who died in 1119. He is credited with having built most part of it, including the western tower up to the roof level, and Bishop Eborard, his successor, with having finished the nave (1121–45) with a wooden roof, which, after destruction by fire in 1463, was replaced by lierne vaulting. There is no doubt that the Norman shafts which run up from the floor here were only intended for bases of tie-beams for a wooden roof, years after the period at which Durham is said to have been entirely covered with ribbed vaults. But the nave aisles (except some bays at the west end) are, and always have been, primitive quadripartite groined vaults. French influence introduced the apse and ambulatory, as at Ely and Peterborough, yet no ribbed vaults. Taking 1119 as the date of their erection, it is at least unlikely that the wide-span Durham ribbed vaults were fifteen years *ante*, or the elaborate nave vault contemporary. As the eastern portion was begun first, the aisle vaults would be reached somewhere about 1104, the date claimed for the earliest vaults at Durham.

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* At St. Albans Abbey. It seems very probable that Peterborough had, as pointed out, two distinct wooden ceilings at different levels, at different times, over the same portion of the cathedral.

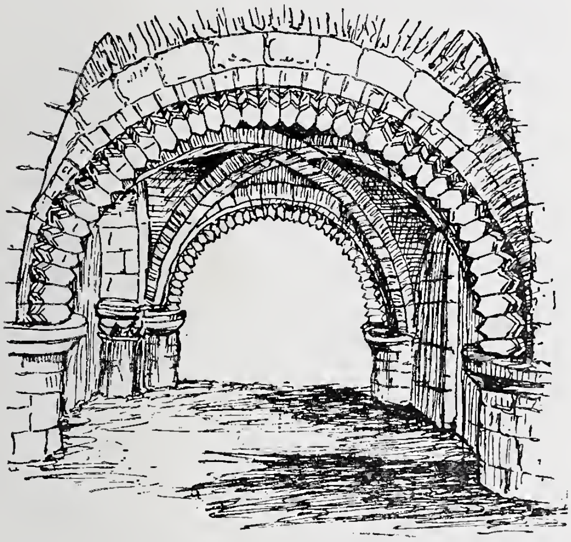


FIG. 4.—GLOUCESTER CATHEDRAL : ONE BAY OF CRYPT.

It must be remembered that as late as *c.* 1110 coursed rubble barrel and groined vaults were constructed at Sherborne Castle, Dorsetshire, notwithstanding that in military architecture the greatest strength is required. Can we possibly accept the statement that Durham nave is "exactly dated, except as to walls"? (Footnote, p. 310, Vol. VI.)

Taking the various points as far as yet recorded into consideration, I think it probable the monks completed the clerestory walls of the nave and transepts from the level where Flambard left them at the date of his death, 1128, and that they roofed over with wood temporarily, but afterwards, at least by the middle of the twelfth century, the vaulting replaced it, but under what bishop, and by laymen or monks? Are not documents silent as to Galfrid being a large builder? Pudsey's other recorded work puts him out of the question.

If the issue could be narrowed to one French example to be pitted against one in England, we could get a step further. The prospect at first held out in the report of *Le congrès archéologique de France* for 1877, by setting Morienval *facile princeps*, was not realised; although it agreed to set this example back into the Romanesque style, in spite of pointed arch and diagonal ribs, and as embodying almost absolutely late eleventh or early twelfth century characteristics. But the door is opened to doubt by one sentence, here italicised:

> "Le chœur de l'église de Morienval mérite à cet égard d'être cité tout le premier : *la nervure et l'ogive avaient été fort peu pratiquées lorsqu'il fut construit*, et peut-être, ou plutôt selon toute probabilité, c'est là que les habitans du Valois virent pour la première fois ces germes féconds d'un nouvel art de bâtir."

Where, then, in France, or anywhere outside Lombardy, was this earlier "*very little*" rib-vaulted work executed? Again, I understand that French archæologists do not now maintain for Morienval the argument for the "end of eleventh century," or even 1110, but take 1122 as the documental date, which puts this so far earliest known Ile-de-France example contemporary with the more advanced zigzag ornamented rib of Mr. Bilson's Durham analysis. M. Anthyme Saint-Paul thinks it may be even later than 1122, which is destructive to the claim of the Ile-de-France. Is it that a general falling in of wide-span rib vaulting between the date of construction of Sant' Ambrogio and that of Morienval, Lessay, the abbeys at Caen, or Durham, accounts for its non-existence; or is it that not any was ever constructed? There is a gap of fifty to seventy years of sterility in this one respect unaccounted for, if we accept M. de Dartein's view that the Lombardic example is the original vault, and it was the prototype of all that followed. Here the advocate of the alternative of spontaneous inception in different localities will have something to say on the subject.

Mr. W. H. St. John Hope has said that the Account Rolls have been gone through, and are being issued in print by the Surtees Society, and further light may thereby be given.

Altogether, considering the data and the deductions of other archæologists, probability seems against Mr. Bilson's views of early date; in fact, the early date is not clearly proven, though we may sincerely wish it might be, and are glad of such a champion, and to have a record of his views. I wish they could be clearly substantiated, as this would accord with those I have held in regard to a London example, as to which I may have something to say on another occasion.

DUTIES AS TO DRAINS.—III.

By Algernon Barker, Barrister-at-Law (Newcastle-on-Tyne).

"Necessary for the Effectual Drainage of such House."

THERE are a great many points to be discussed as to the meanings of these words. First, what is meant by "necessary" and "effectual"? Is it bare necessity or expediency? Then what is "drainage"? Must it be for rain-water as well as foul fluid? Then what is meant by "house"? Must the drains drain every part of it, however low, so that though on the basement there is nothing but the beer-cellar, and no liquid spilt except that which drips from the beer-tap, the drains must be capable of draining, say, a possible sink which might be put there? Again, does "house" include outhouses and the like?

74. **What Standard of "Necessity" and "Effectuality"?**—The matter on which the surveyor reports his facts and the Council deliberates, decides, and commands, is necessity for effectual drainage; that is to say, the problem for them to consider is, What system of drainage would be "best for the convenient and proper drainage of the house"? (*See Lewis* v. *Weston-super-Mare*, 40 Ch.D. 55, and Journal R.I.B.A., 27th July, 1901, p. 448, col. 1 (middle), and Fitzgerald, ed. 1895, p. 22.) (Cases on compulsory purchase are distinguishable—*e.g. Galloway* v. *London*, 1 H.L. 35.)

75. **Drainage: Need it be for Rain-water?**—Then what does "drainage" mean? Must the ground drains be effectual for carrying off roof-water? They must (*Holland* v. *Lazarus*, 66 L. J. Q.B. 286); and perhaps rightly so, for if this were poured into an over-small drain mischief would ensue. The case of *Matthews* v. *Strachan* (pars. 54, 66, 70) would have been decided differently had the house itself required the double system. (Gutters and drain-pipes seem to be "drains" (par. 69); but this is a different question. I am asking if the ground drains need be large enough to carry rain-water.) But the drains need not be large enough for flood-water from fields (Fitzgerald, P.H.A., ed. 7, p. 22).

76. **"House": Dry Cellars need not have Drains Provided.**—In the P.H.A. I think that the lowest level of the house which can be considered for the purpose of drainage is the plane in which the pipe from the lowest sewage fount planned or made can be conveniently taken through into the ground outside. The section, as stated above, requires drainage for the house as it is, or is intended to be ("such house"), not as it might be. This argument is all the stronger when we observe that section 75 above mentioned of the Metropolis Management Act of 1855, after "such level and fall," continues, ". . . so that the same shall be available for the drainage of the lowest floor of such house or building." This provision being omitted in the P.H.A., was intentionally excluded (note *j*, 1).

77. **Does "House" Include Outhouses?**—I do not think that outhouses are included, for reasons already given when we considered what constituted part of a house (par. 19, and summary par. 22). Of course, if these outhouses are "houses" *per se*, the case is different (*see* "House or not?").

Destination.

78. **Any Sewer. Can Drain-owner Choose?**—The sewer, as we shall see, must be a sewer which the local authority are entitled to use; but can they choose our sewer for us, can we choose it, or must it, *malgré* both builder and authority, be the nearest sewer? The P.H.A. of 1848, section 49; the London Sewers Act 1848, section 46; and the Metropolis Management Act 1855, section 75, in similar sections expressly gave the local authority power to choose. This power is omitted here, and therefore excluded (note *j*, 1).

The drain-owner should, for reasons given under "No trespass" in my former lecture on "Rights," 27th July 1901, p. 444, col. 2, par. 3, drain into that sewer within 100 feet, the excavation to which would least incommode the public. This may not always be the nearest.

We shall see, however, that if it is impracticable to reach a sewer he is excused from using it at all (par. 83), and on the same analogy he can, to a certain extent, consult his own convenience (Max. 221 *b*, *c*, 222; *Matthews* v. *Strachan*, 1901, 2 K. B., at 549).

79. **What Kinds of Sewers are Included?**—Sewers vested in the local authorities under section 13 or made by them, sewers of neighbouring authorities, private sewers (in each case fæcal sewers being for all sewage, slop sewers for slops only), are included under the term if only the authority is entitled to use them. So also are channels to sewage farms and land drains if the authority has a right to use them for this purpose, but you cannot and therefore need not connect with the authority's road drains. I refer to my previous lecture on "Rights" (Parts I. and III., June and August 1901, 470, Addendum).

⁂ Max = Maxwell on the Interpretation of Statutes, P.H.A. = Public Health Act. Lumley from henceforth = 1902 ed. (*q.v.*). The final addendum to Lecture as to Rights and the addendum to the present Lecture will be printed later.

80. "Entitled to Use."—This must be by vesting, by grant, or by prescription, and unless one of these is present, a mere fouling by several houses would not be sufficient (*L. N. W. R. Co.* v. *Runcorn*, 1898, 1 Ch. 34). Mere title to use for surface-water is not enough—*Charles* v. *Finchley* (23 Ch. D. 767), *Brown* v. *Dunstable* (1899, 2 Ch. 378). How even a natural stream may become a vested sewer may be seen in my previous lecture (Part I., June 1901, p. 377, col. 1, bottom, "Antiquity Test" of "Sewers").

81. Sufficiency of Size not Required in Sewer.—I may here note that the section says nothing that would require the sewer to be of "sufficient size" as did section 61 of the London Sewers Act of 1848 (but not its contemporary P.H.A.) I presume therefore that the small size of the sewer would take away neither our duty nor right to empty (note *j*, 1).

82. "And which is within 100 Feet."—That is to say, if it is available. There may be various obstacles, *e.g.* private alien land, or rocks, &c., or rivers, or a valley may intervene, or the place in the house where the drains would naturally emerge from the interior may be below the sewer. In such case that sewer only is within 100 feet which can practicably be reached with a drain 100 feet long, and which is below the level of the drain where it makes its exit from the house.

The sewer must be an available sewer because the words of our section require this construction, the nearest available route being the proper method to adopt in measuring the 100 feet, except where inconvenience would ensue from such a construction (note, *p*, 1). Also because the spirit and intention of the section require it; and, lastly, because, even if this was not the grammatical method of construing the section, the enormous unfair, absurd, futile, and the widespread inconvenience, and also the insanitation which would result from adopting a different meaning, would force the Courts to strain a point and insert the word "available." This is shown in the appended note (*p*, 2), to which I refer the reader.

For all this, where possible it *might* in some cases be better to be 101 feet from the sewer than 99 feet, or *vice versâ*. You might wisely choose a site higher, lower, further, or nearer, or raise or lower your drain exit or sewage founts (par. 76).

83. "Site" from which 100 Feet Measured.—In *L.C.C.* v. *Pryor* (1896, 1 Q. B. 465) and *Lord Auckland* v. *Westminster* (*see* par. 24) the word "site" is held to mean the ground appurtenant, and the same meaning is given in Johnson's dictionary. In *Blashill* v. *Chambers* (14 Q. B. 479) the word was held to mean only the plan of the house itself, and this is the meaning the word would obviously bear in the Housing of the Working Classes Acts.

This, I think, is the construction the word should have in our section, viz. ground plan of house.

One has only to read this section to see the absurdity of making "site" include appurtenances so as to force a man with large grounds to make a drain of perhaps many hundred feet from his house to a sewer. If, however, the sewer is within 100 feet of "*some part* of the site" and is available, we must use it.

I have already stated what is and what is not "part of the house" (pars. 19-21, and summary par. 22).

84. Cesspools and Other Places.—So much, then, for sewers. If the sewer is not available or within the prescribed distance, then we may drain into "such covered cesspool or other place not being under any *house* as the urban authority may direct."

As to this, we ask nine questions: (1) What is a "house," and what buildings are part of it, so that a cesspool cannot be put under them? This has already been answered at the beginning of this lecture. (2) What is a cesspool, and how distinguished from a sewer? The answer to this may be gathered from my last lecture on "Rights," Part I., June 1901, "Sewer Destination Test," and *see* further *Button* v. *Tottenham* (78 L. T. [N.S.] 478). Seven remaining questions must be considered at greater length, viz. (3) What is "any other place"? (4) Can the authority raise the level of your house by prescribing a destination above it? (5) Can they prescribe a destination at an unreasonable distance? (6) Must they prescribe within reasonable time? (7) Who prescribes, and is a surveyor's report necessary? (8) Suppose the prescription leads to actual nuisance? (9) Does all the law laid down above as to "discretions" apply?

As to (3) "any other place" does not perhaps include the sea, for the sea was expressly inserted as a destination in the P.H.A. of 1848, and is here left out (note *j*, 1) (*contra* Lumley, ed. 1902, p. 61 [*e*]), nor is it *ejusdem generis* with cesspool or sewer. Any other legal destination, as given in my last lecture, may be prescribed. (A furrow or hole in a field can be prescribed as *ejusdem generis* with "cesspool" or "sewer.")

(4) The authority cannot use their power of prescribing cesspools or other places with the object of forcing you to raise the level of your basement or of the place where the drains emerge or of sewage founts (sink, &c.), for to do this would be to exercise an irrelevant discretion (par. 54), but if their motive is to secure better sanitation—*e.g.* if you lived in a hollow and any low destination would be too near in their opinion—you could not question it (compare *Matthews* v. *Strachan*, par. 75).

(5) I can find no law which cuts down the discretion of the authority in respect of the *distance* of the cesspool, except the general rules

as to honesty, relevance, &c., which I detailed when I considered structural orders above. The section, however, seems to desire to save the drain owner the expense of a drain longer than 100 ft. Cases as to by-laws are not in point except as against us, for by-laws have to pass a test of reasonableness on the merits, which orders escape.

It is no good blinking the fact that in this "free country" there are many small tyrants. Just as while boasting (we, at least, used to boast) of our small National Debt, we take no notice of the weight of local debt, which is yearly growing bigger, so a people who will not tolerate central oppressors will allow almost any latitude to local autocrats. This is not the fault of the Judges. When the law is a "hass," it is always the people who make it so.

(6) The destination can only be prescribed within a reasonable time (par. 63).

(7) The power to prescribe can only be exercised by the Council or Committee, except where these ratify a previous prescription by the surveyor. The orders as to destination can be delivered by any agent. No surveyor's report is mentioned, but as from the necessity of the case they must delegate their duty to investigate, and as there must be investigations, a report by some trusted person is necessary (pars. 57–62).

(8) The prescription must not lead to actual nuisance (par. 64).

(9) It must, in fact, generally follow the law as to discretions laid down above (pars. 50–65; *see* summary in par. 65), except that there is no surveyor's report expressly required (contrast par. 43).

85. **Penalty.**—Only the person who builds or orders building is liable to a *penalty* (par. 34). To occupy is not to cause to erect (*Pearson* v. *Kingston-on-Hull*, 35 L. J., M.C., 36; 3 H. & C., 921; Max. 474*c*.; *see* par. 39). Occupiers are liable to indictment. (As to all this *see* pars. 5, 38, 39.) (As to entry to inspect, *see* par. 49.)

86. **Cost of Drains, Sewers, and Cesspools.**—As to the drain, the building owner pays (Max. 492*a*). The cost of sewers is fully dealt with in the addenda to my last lecture, and is alluded to again in this. Here we presuppose sewers already made. Glen holds that the drain-owner is not forced to make the cesspool.

87. **Final Remarks as to the Penal Method.**—This closes our consideration as to the penal method. My object is in no way to help owners to evade the law, but rather to point out publicly defects in the Act both for and against building owners, so that these defects may be remedied (some general rules for interpreting statutes are given in note *j*).

Subsequent Alteration Method. S. 23.

88.—We now come to the second method, viz., that of subsequent alteration under section 23. As to this I will say little, because the architect is not so interested in the house after it has been erected, and also because most of the questions arising under section 23 will be found to have been answered in our investigations as to section 25.

The 23rd section gives an authority, *urban or rural*, the power, where the drains of any house (already built) are really insufficient, to give reasonable notice to its owner to make certain drains. The provisions as to the destination and structure of these are, except that their order is inverted, identically the same as those contained in section 25. In the event of the notice not being complied with the authority have power to do the work themselves and to recover the expenses of so doing as laid down in the section.

On the other hand, it is provided in the third clause that the local authority may take an alternative course and, when there are two or more houses with insufficient drains, and in their opinion it will save expense to do so, may make a new sewer at the expense of the owners.

The first two clauses of section 23 should, I think, be read as if they were one section, and the third as if it was another. In accordance with this view I will set out first of all the first two paragraphs, and when I have considered them I will set out the third. The subject will thus divide itself into two broad heads: (1) Drains, (2) Sewer. (The words in which this section *differs* from section 25 are indicated by italics.)

89. **Drains.**—Section 23 (First two clauses) "*Where* any house within the district of a *local* authority *is without a drain sufficient* for effectual drainage, the *local* authority *shall by written notice require the owner or occupier of such house, within a reasonable time therein specified, to make* a covered drain or drains emptying into any sewer which the local authority are entitled to use, and which is not more than 100 feet from the site of such house; but if no such means of drainage are within that distance, then emptying into such covered cesspool or other place not being under any house as the local authority direct; and the local authority may require any such drain or drains to be of such materials and size, and to be laid at such level, and with such fall as on the report of their surveyor may seem to them to be necessary.

"*If such notice is not complied with, the local authority may, after the expiration of the time specified in the notice, do the work required, and may recover in a summary manner the expenses incurred by them in so doing from the owner, or may by order declare the same to be private improvement expenses.*"

(The rest of the section appears in par. 100 later.)

On these two paragraphs of the section various questions arise. (i) Does the section apply?

What is the meaning of "house" (par. 90) and what is an "insufficient drain"? (par. 90). (ii) What may be required? (par. 91). (iii) Who can give orders? What are their powers and their discretion? (par. 92). (iv) What remedies have they against us? (pars. 93 and 94). (v) What remedy have we against them? (par. 95). (vi) Who is liable? (par. 96). (vii) When is their remedy barred by delay? (par. 97). (viii) Generally, what defences have we? (par. 98). (ix) What appeal is there? (par. 99).

90. **Does the Section Apply?**—"*House.*"—This word in section 23 means a house when built, otherwise the definitions given in pars. 4, 5, and 17 end, apply here. It is no excuse for insufficient drains that the house was built before 1875. The house is liable before occupation and until it is really clear that all intention of using it as a house is abandoned. There is no hardship in this; a man builds and leaves a house standing and in repair with a view to its being dwelt in, and it would be best that its drains should be reformed before it is occupied, or at least while there is no tenant there. (*See Robertson* v. *King*, 1901, 2 K.B. 265, on general grounds).

"*Local Authority.*"—Observe that the section applies in a rural district as well as in an urban, and *see* section 232 as to rural rates.

"*Sufficient drain.*"—The drain must be insufficient in itself, *i.e.* not properly repaired, or of poor materials, or of a bad shape, or wrong size, or improper level and fall; and in criticising it no regard must be had to the sewerage system of the district generally. (*St. Martin* v. *Ward*, 1897, 1 Q.B. 40; 66 L.J. Q.B. 97; *V. St. Marylebone* v. *Viret*, 34 L.J. M.C. at 219). This last case tells us that the magistrate can review the board's decision, whether it is on a matter of law or a matter of fact. (Both cases were decided on the Metropolis Management Act of 1855, section 73.)

91. **What may be Required.**—If the section applies, the local authority has the same powers as regards structure and destination as it has under section 25 in the case of houses under that section. The owner may also, in a friendly way, get the local authority to do the work and charge him. The expenses so incurred are enforceable in the same way as if a notice had been disobeyed.

92. **Who can give Orders? Their Powers and their Discretion.**—We have seen that a local authority, urban or rural, can give orders. A perusal of par. 61 will show that, in an urban district, a committee can exercise this function. A rural council has no such power to delegate.

As regards the powers and discretion of the local authority I may refer to pars. 51–64, except par. 63 (as to punctuality).

In this section the authority are given discretionary powers to require certain structural characteristics in the new drains; and, the sewer being beyond a certain distance from the site of the house, to prescribe likewise the destination of the drain. These last two matters are under similar rules in this and in the 25th section. In addition to this, the authority are given power to do the work required in default of the owner. Such work must be properly within their powers, but they judge as to what it should cost. They can choose whether they will recover the expenses of so doing summarily or will declare them private improvement expenses. Their other powers under the third clause of our section I deal with below (par. 100–107).

On the other hand they are tied in two ways. They cannot refuse to exercise some of their powers. Thus they must give notice to the owner when a drain is insufficient. They are not bound under this section to do the work and charge it against the defaulter. But under section 40 they must see that the drains are satisfactory somehow, or be liable under section 299, &c. (See last lecture "Complaints of Insufficient Sewers," *mutatis mutandis.*)

The authority are restricted in our favour also. It is not theirs to judge of the insufficiency of our drain, or whether we have complied with their notice, or whether it allowed reasonable time for our compliance, or whether their work was reasonable as to what was done, though they judge whether it was reasonable as to what was paid. Except as just stated, the magistrate decides as to all these matters. Further, their discretion is limited by the general rules laid down in pars. 51–62 and 64, except that punctuality does not matter.

The authority cannot prescribe a destination for a drain when there is a sewer within the 100 feet, unless they do so under the third clause of this section which we shall discuss later.

93. **Conditions precedent to Authority's Remedies.**—The conditions precedent to the authority having any remedy are, that they shall give reasonably long notice, and then, in default of his compliance, do the work for the owner.

Notice reasonably long and sufficiently explicit and proper.—This is a condition precedent (*Jarrow* v. *Kennedy*, L.R. 6 Q.B. 128), but may be served on owner and occupier. A notice giving three days in which to do the work was held not reasonable in *St. Leonards* v. *Holmes* (50 J.P. 132, 134). The notice may simply refer the recipient to the surveyor's office for instructions. (*Bailey* v. *W.* 33 L.J. M.C. 161.) Sections 266 and 267 deal with notices by local authorities. We consider in the next paragraph what works may be specified.

Doing what work?—On the expiration of the notice the authority can do the work for the defaulter. The work that they do must of course be that specified in the notice. What work can they specify? This question is not so easily answered.

In *V. St. Martin's* v. *Ward* (1897, 1 Q.B. 40, 66 L.J. Q.B. 97), the authority, purporting to act under the Metropolis Management Act of 1853, section 73, had made a new sewerage system, and made drains to it from a house the original drains of which had previously emptied into another sewer. It was held that they had travelled beyond their powers in doing this, although the old drains had been insufficient in themselves; and that the section gave the authority no power to alter the destination of a drain which emptied into a sewer. Now that section gives some colour to an opposite opinion; but the first two clauses of ours give none (with the third I deal later).

So that, *a fortiori*, under the first two clauses above set out (par. 89) the authority cannot alter the destination of our drain from one sewer to another where the original sewer is within 100 feet of the house. Nor can they, I think, do so when it is beyond that distance, as this is not within the spirit of the first two clauses, and the third clause (set out later) gives such a power only if it will save cost to the owners, and shows therefore that it cannot otherwise be exercised.

The case of *Glasgow* v. *McOmish* (1898, A.C. 432) shows that the authority cannot make a new *drain even to the same sewer* (*i.e.* to a different part of it) on a different site.

We learn, therefore, that, where the drain previously emptied into a sewer, the authority, except as mentioned below (par. 100), cannot alter the destination from one sewer to another or recover for work which is not on the same site as the old drain. If they alter the level and fall, it must not be in order to accommodate the sewer-drained conduit to a *new* destination.

The authority can, however, alter the destination of insufficient drains which are *not* already connected with a sewer, so as to make them empty either into a sewer, where there is one within 100 feet, or into some other destination (as provided by the section) where there is not, and in doing this they might have to alter the site of the drain.

Even if the authority exceed their powers in what work they require in the notice and in what they do on behalf of the owner, they can recover *pro tanto* (without costs) for any work which they were authorised to require and do (*Glasgow* v. *McOmish*) if their good and bad requirements are separable (see *ante*). The justice of the peace is judge as to all these matters.

94. **Remedies of Authority.**—The authority can take *one* of four alternative courses—they can recover in lump or instalments (either summarily or in county court, according to amount), or by private improvement rentcharge, or as private improvement rates. In addition to this they have a charge on the property improved, and this remedy is cumulative, that is, can be exercised in addition to any of the others.

A valuable case on this subject, when corrected by *Gould* v. *Bacup* as mentioned below, is *Tottenham Local Board* v. *Rowell* (15 Ch. D. 371), a case which should be valuable, since the Judges took twenty years to decide it.

(i.) *Lump expenses recovered summarily.*—If any work answers to the description above laid down, sections 23 and 257 give the authority the right to recover summarily against the owner, but not against the occupier, the expenses of doing it, with interest, on service of a demand. The magistrate cannot discuss the reasonableness of amounts *paid* or *incurred* on work authorised by the section (*Baylis* v. *Wilkinson*, 33 L. J., M. C. 16, on P.H.A. 1848; *Beckenham* v. *M.B.W.*, 6 Q.B.D. 112). This procedure is civil and not criminal (*Maxwell*, 370 *c.*; *R.* v. *Whitchurch*, 7 Q.B.D. 534; *Mellor* v. *Denham*, 5 Q.B.D. 467), and no penalty is implied (Max. 499 *d.*, 378 *c.*).

This right is lost if proceedings are not taken within six months from the demand, but there is no time limit for the demand itself; it may be delayed indefinitely so far as section 257 is concerned (*Wortley* v. *V. St. Mary, Islington*, 51 J.P. 167); as to costs, &c., see *Walthamstow* case, reported *Times*, 18 July 1890.

Expenses under £50 in County Court.—Under section 261 the local authority have the *option* of going to the County Court in this case. The six months' limitation and other rules as to summary recovery, *mutatis mutandis*, apply here also.

(ii.) *Instalments.*—Instead of recovering a lump sum against the owner, it may be made payable by instalments with interest, under section 257. In this case the local authority has a right to demand any instalment from owner or occupier, and to recover it summarily within six months of demand. The authority cannot, when they have elected to take instalments, retract their long-suffering, and the charge is good for the instalments only as they arise.

Gould v. *Bacup* (1881, 50 L. J., Q.B. 44), in flat contradiction to *Tottenham Local Board* v. *Rowell* (1880. 15 Ch.D. 394) (on section 146 of the P.H.A. 1848), which case it does not quote or overrule, states that the instalments could not be recovered summarily if declared to be private improvement expenses. Certainly section 257 never couples the words "private improvement expenses" with instalments; so I venture to agree with *Gould* v. *Bacup*.

"Demands" under £50 can be recovered in the County Court under section 261, and as each instalment needs a fresh demand, it is the instalment and not the total expenses which must not exceed £50.

(iii.) *Private improvements and rentcharge under* *section* 240.—This enables the authority to borrow from a third party the money to do the work, and, after declaring the expenses to be private improvement expenses, as permitted by section 23, to grant the lender a rentcharge on the property so improved, according to the formalities stated in sections 240 and 241.

(iv.) *Private improvement rate*, under section 213 (*see* sections 214 and 215). (Rural districts are in the same position as urban districts under section 232.)—Under section 213, as soon as the authority has made an order declaring the expenses private improvement expenses, they may come upon the occupier, or, if the premises are unoccupied, upon the owner.

Section 214 indirectly throws part of these rates on the owner. Section 256 gives the machinery for the recovery of rates. The time limitation in occupier's favour begins to run from the time when demand is made on him (*Tottenham Local Board* v. *Rowell*), and procedure is under Jervis's Acts (*see* later as to Appeals).

(v.) *Charge.*—This remedy is cumulative on—*i.e.*, is in addition to—each of the other remedies. Immediately the work is complete the proper expenses become a charge on the property under section 257. This charge may and must be enforced in a law court which dispenses equity, like any other charge, and is subject to no limitation, except that it is statute-barred after twelve years (*Tottenham Local Board* v. *Rowell; Hornsey* v. *Monarch*, 24 Q.B.D. 1). It is not registrable as a land charge (*R.* v. *Vice Reg.*, ibid. 178) and has no priority to restrictive covenants (*Tendring* v. *Dowton*, 1891, 3 Ch. 265).

Forcible entry.—I may here mention, among the remedies, that the local authority may, perhaps, enter forcibly to connect drain and sewer without being liable (*Searle* v. *Bennett*, *Times*, 1877, 1 Dec.).

No other remedy.—Apart from these there is no other remedy (*V. St. Pancras* v. *Batterbury*, 26 L. J., C. P., 243; *Lamplugh* v. *Norton*, 22 Q.B.D. 452, 456; *Re Boor*, 40 Ch.D. 572, 576; which says that such expenses are not recoverable in an administration action (*West* v. *Downham*, 14 Ch.D. 111). No penalty is implied by section 23 (Max. 499 (*d*); 378 (*c*)).

Sections 25 *and* 23, *cumulative.*—It seems to me, having reference to the cases of *Hall* v. *Nixon*, and *Pearson* v. *Kingston-on-Hull*, that, though a man disobeys section 25 and is fined, the local authority can also make his drains sufficient under this section, if they really are "insufficient." Otherwise section 25 would ruin the sanitation of a town instead of securing it.

95. **What Remedies against the Authority?**—If the authority makes the owner do what is really their work, he can recover his expenditure. Again, if they contract to do *his* work in rectifying an insufficient drain and do him damage, he can recover (*Hall* v. *Batley*, 47 L. J., Q.B. 148) under section 276. Again, he might recover compensation in an appeal to the Local Government Board. He cannot, perhaps, sue, if they enter forcibly to connect sewer and drain (*Searle* v. *Bennett*).

96. **Who Liable?**—Lump Expenses (section 257) recovered against the *owner*; Instalments against the *owner* or *occupier* (section 257) at the option of the authority; but they must elect which of these they will summon for the particular instalment, and thereupon the other will be relieved for that instalment.

The fact that these lump expenses or instalments are being demanded in the County Court will make no difference.

Private improvement rentcharges are recoverable against *owner or occupier* (sections 240, 241, and Schedule IV.); but private improvement rates (sections 213, 214, and 215) fall only on the *occupier*, except that when the house is unoccupied the *owner* is liable.

Under section 240, as regards private improvement rentcharges, and section 214, as regards private improvement rates, the occupier can deduct three-quarters of what he has had to pay from his rent, if he holds at a rack rent, and a less proportion, if he holds at less than a rack rent. Other complications, where the land is sublet, may be seen in the section.

When not the owner but the occupier is morally responsible for the bad state of the drains, the owner could recover from the occupier (*see* Lumley, P.H.A. latest ed., p. 239, in note (*g*)).

The lease may throw all the burden either on landlord or tenant (section 226) (*see* Lumley, p. 138 (*l*), on section 104 and on section 226).

97. **Limitations.**—*As regards lump expenses or instalments* before magistrates or in County Court. Where the local authority has incurred expenses, they may make their demand at any time after so doing; but, when they have made their demand, they must sue within six months or they are barred.

Private improvement rentcharges.—Arrears of these are barred in six years of their respectively becoming due, and if no rent be paid or sued for within twelve years, all future rights to rent are barred. Of course, acknowledgment of indebtedness, &c., will prevent the claim from being barred. (As to arrears, *see* 21 Jac. I., c. 16, s. 3, and 9 Geo. IV. c. 14, s. 1. As to future rents, *see* An Act for the Limitation of Actions and Suits relating to Real Property, 1833, 3 & 4 Will. IV. c. 27, s. 2, amended by 37 & 38 Vict. c. 57, s. 9, of 1874, and *see* section 14 of the 1833 Act.)

Private improvement rates.—Under section 252 P.H.A. these are barred in six months from the time of the defaults mentioned in section 256 P.H.A., *i.e.* non-payment after fourteen days from demand in writing, or, if defendant is "flitting," immediately on demand. (Section 256 is identical with section 11 of the Summary Jurisdiction Act, which is unrepealed.)

Charge.—The charge under section 257 is barred in twelve years like rentcharge.

The case of *Smith* v. *Legg* is not in point.

98. **Defences** (defences; pars. 121, 131, 135, relate to "nuisances").—The defences of the person whose drains are thus criticised will be:—(i) The section does not apply, for the building is not a house, and the drain is sufficient (par. 90). (ii) The requirements as to the new drain are in excess of the authority's powers (par. 91) as to number, size, materials, level, fall, and destination, and the standard of necessity for effectual drainage is wrong. The discretion of the council has been exercised wrongly (*see* pars. 61–64, *ante*, except par. 63.) The wrong persons have given the orders (par. 93.) (iii) The notice given was unreasonably short, and did not state what was required (par. 93, sub-par. 2). (iv) The notice was to do work, not making the old system effective, but making a *totally* new system; my drains previously emptied into a sewer, and the authority told me to put the drains on a new site or to empty them into a new sewer (par. 91) (not under the proviso). (As to proviso, *see* later, par. 100.) (v) The notice was complied with. (vi) The authority did work resembling the above notice in being outside their powers. The authority did work not mentioned in their notice. The authority *dishonestly* paid an unreasonable sum to the contractor, &c. (vii) The sum is not below the £50 and so cannot be recovered in the County Court (par. 94, sub-par. 5). (Other objections to jurisdiction might be made, and bias of magistrate *might* be pleaded in very extreme cases in order to disqualify him.) (viii) Instalments having been ordered, the lump cannot be recovered (par. 94, sub-par. 6). Private improvement expenses having been ordered, these can only be recovered under rentcharge or as rates. Only one of these four methods of procedure can be taken (par. 94, sub-pars. 8 and 9). The action is too soon, no demand having been made (the *charge* is independent of demand). (ix) The wrong person, owner for occupier, or *vice versa*, is being sued (pars. 96, 94, sub-par. 11). (x) The High Court has no jurisdiction (except on case stated). (xi) The action is too late, for the time limit has passed (par. 97). (xii) A *bad* defence would be that our house was built before 1875. (xiii) Failing all these, sometimes contradictory and sometimes inapplicable defences, the victim might appeal (par. 99).

99. **Appeals.**—These will be as follows:—

From authority to magistrate.—I have already stated these (pars. 91 and 92). The magistrate can also consider the rate (*see* Lumley on section 256 P.H.A.).

From authority or magistrate to Local Government Board, under section 268, within twenty-one days from summons as to lump expenses, instalments, rentcharge, rate, and charge. Compensation may be awarded and proceedings stayed.

From authority to Equity Court, in the case of a charge under section 257.

From magistrate to Quarter Sessions.—As regards expenses or magistrate's *order*, the appeal is under the Summary Jurisdiction Acts (which repeal most of the formalities, &c., stated in section 269, except as regards rates). Therefore notice of appeal must be given within seven days, and recognisances entered into within three days after notice.

As regards *rates* the provisions of section 269 remain good, and so fourteen days are allowed in which to give notice of appeal.

From magistrate or from Quarter Sessions to High Court by case stated. If from J.P., three calendar months only allowed (and *see* Stone's *Justices' Manual*).

From High Court (Q.B.) to Superior Courts, only if leave to appeal is given.

In all cases care must be taken to make clear the appellant's grounds of objection.

As regards apportionment of expenses of making a sewer under the proviso, we deal with this under "Sewer" (pars. 100–107).

100. **Sewer.**—Proviso = Clause 3 of section 23: "Provided that" (*understand here* "*where two or more houses within the district . . . are without drains sufficient,*" *&c.*) "where, in the opinion of the local authority, greater expense would be incurred in causing the drains of" (*understand* "*such*") "two or more houses to empty into an existing sewer pursuant to this section, than in constructing a new sewer and causing such drains to empty therein, the local authority may construct such new sewer,

"and require the owners or occupiers of such houses to cause their drains to empty therein,

"and may apportion as they deem just the expenses of the construction of such new sewer among the owners of the several houses, and recover in a summary manner the sums apportioned from such owners, or may by order declare the same to be private improvement expenses."

I have divided this proviso into three paragraphs, and will consider, to begin with, the first and last paragraphs, which relate to this "Sewer," and then consider what is to be done as to the drains into it under the middle paragraph.

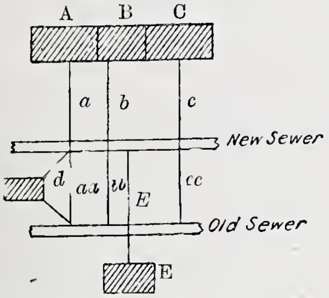
I now consider the questions: (i) When does this part of the section apply? (ii) Must each house so affected be saved expense? (iii) What are the authority's powers and discretions? (iv) What are their remedies and who are liable? (v) Appeals. (vi) Limitations. (vii) Can the owners be forced to make drains to the new sewer under the first two clauses of this section (set out in par. 89)?

101. **Does this Part of the Section apply?**—This part of the section only applies to houses which are

under the first clause, *i.e.* which have insufficient drains. It would be monstrous to hold otherwise.

102. Must each House so Affected be Saved Expense as to Drains?—The object of allowing the authority to make a sewer at the expense of the house is evidently not to allow the authority to add to or to alter the site of house drains, which emptied into the old sewer, but rather to shorten them (as in the diagram).

SUBSEQUENT ALTERATION, S. 23. NEW SEWER TO SAVE EXPENSE UNDER PROVISO.



a, *b*, *c*, A's, B's, and C's drains as cut down. *aa*, *bb*, *cc*, abolished continuation of same drain. *d*, D's new drain. *E* = new continuation of E's old drain.

The diagram shows also E's house, which drained, say, 20 feet into the old sewer, and on its abolition has to drain 60 feet into the new. E's old drain is, we will suppose, "insufficient," but, while the drains *a*, *b*, and *c* from the other houses will cost less, being shortened by one-half, the drain from E's house will cost more. Can the authority make E pay for the new sewer, and at his own expense lengthen his drain? Certainly not. The authority have no more right to consider the saving to the other houses in dealing with E than they have to consider the general saving to the rest of the town. Both are irrelevant considerations, and to consider them would be to violate the rules as to discretions laid down earlier in the lecture (pars. 51–64). But had E's drain been shortened by a foot instead of lengthened, then he would have had to pay a moderate proportion of the cost of the new sewer. The same remarks apply to D's new drain.

103. Powers and Discretions.—I have already considered these in the last paragraph. The discretion to make the sewer and also the discretion to apportion the expenses, must conform to the rules laid down in the pars. last mentioned.

104. Remedies.—The remedies for the apportioned expenses are the same as those for the expenses of making drains, and the owners $\substack{\text{and}\\\text{or}}$ occupiers can be made liable by the same methods. No notice of default is required as in the case of making drains.

105. Appeals.—The appeals are the same, but, when the appeal is not as to right to charge at all but as to amount apportioned, a notice disputing it must be served on the authority within three months.

106. Limitations.—These also are the same as those with regard to recovering expenses of drains.

107. Can the Owners (or Occupiers) be forced to make Drains to the New Sewer under the First Two Clauses of this Section?—Clearly. The words "causing to empty" as used the first time (in sub-par. 1 of par. 100), of course, mean construct or repair, and so I think that "require to . . . cause . . . to empty" (in the second sub-par.) gives the authority power to require them to construct or repair, and, by reference, enables them to use all the powers given in the first part of this section, set out earlier (par. 89), in order to enforce this.

Inspecting and repairing is dealt with by section 41.

This concludes my remarks as to the subsequent alteration method. We will now consider nuisances.

108. Nuisance : Method.

The question of nuisances by pollution of *water* has already been dealt with in my lecture on "Rights as to Sewers" (Part I., June 1901, p. 369, col. 2). What I now propose to consider is liability for pollution of *air*. Nuisances of this kind may be punished statutorily under the Public Health Act (pars. 109–126) and kindred enactments, or at common law as a public (par. 127–131) or private nuisance (pars. 132–136).

A nuisance is punishable, even though it does not arise from a house or building, but only from a field, and whether the district is urban or rural.

109. Nuisances under the Public Health Act.—The following schedule will, perhaps, be of use. There are three possible complainants, and the first may proceed in five alternative ways (*set out in table on next page*).

I. By local authority.

II. By aggrieved person (section 105) who has the same powers as the authority, only a constable may be ordered by the magistrate to enter instead of the local authority.

III. By a constable (section 106), if the Local Government Board consider the authority in default and authorise him to act. In this case he has all the powers of the authority.

110. —Cumulative or Alternative. — All these methods A, B, C, D, and E [*see table overleaf*] are alternative and not cumulative, and sections 94–98 are quite independent of sections 41, 47, and 49. The difference in the punishments above shown, and also the redundancy of fines and expenses which would otherwise result, and the absurdity of making a single penalty payable by the offender who is attacked under section 94, and double ones if under sections 41, 47, or 49, show that sections 96 and 98 are not complementary to these latter sections. Again, each set of sections is in a different part of the Act. I do not think

	Section	Procedure	Offence	Punishment	Person Liable	Authority's Power to judge whether Nuisance exists, and to Condone
A	41	Notice and summary recovery	Bad drains, &c. .	10*s.* per day penalty and expenses	Owner (or occupier by making private improvement expenses)	If the local authority *deem* the offence committed they must act
or B	47 (2)	Notice and summary recovery	Stagnant water, &c. in "*dwelling - house*" after notice	Expenses and penalties, 40*s.* lump, and 5*s.* per day	Occupier . . .	
or C	47 (3)	Summary recovery	Sewage soaking from w.c., privy, or cesspool	Expenses and penalties, 40*s.* lump, and 5*s.* per day	Occupier . . .	No discretion. Must act
or D	49	Notice and summary recovery	Filth, &c. . .	Expenses . .	Offender or occupier; if no occupier, then owner	If the local authority *deem* the offence committed they must act
or	94	Notice or abatement	"Nuisance" .	(None under this section. *See* (2), *post*)	Offender, or, if not found, occupier; or, if structural defect or no occupier, owner. (Occupier and owner excused if blameless.)	
E	95	Application to justices	Disobeying abatement order or probable recurrence	Lump penalty, £5, and costs	Recipient of notice .	If not abated or in local *authority's opinion* likely to occur again, they must apply
	95	Order by justices	—	—	—	If justices satisfied as to offence they *must* make order and may impose penalty
	98	Second application to magistrate	Not abating or	Continuing penalty 10*s.* per day and expenses, if local authority abate	Recipient of notice .	The authority must act (by 48 & 49 Vict. c. 72, s. 7)
	—	His order . .	Disobeying prohibition	20*s.* per day and expenses	—	The magistrate has a judicial discretion

Schedule IV., forms A and B, contradicts this view. It only gives one pair of forms for each method of proceeding. (*Bird* v. *St. Mary Abbott's*, 1895, 1 Q.B. 912, may, perhaps, be useful.) Under the P.H.A., s. 111, no one is to be "punished twice" for the same offence.

This same section, with the above proviso, allows the public and private common law remedies to be employed (*see post* par. 121; Defence (5) par. 126 and sections 25 and 23 also. I propose to consider the questions which concern them all).

111. **General Matters as to Nuisances under P.H.A.**—I propose to consider what "nuisance" is and what offences are punishable, the authority's power of entry, the forms of notices and of orders to abate, the persons who will be liable, expenses, penalties, who can act, and what defences, counter-remedies, and appeals the defendant has.

112. **What is "Nuisance"?**—This question applies to all the above five methods A to E. The word does not include every common law nuisance, but a nuisance, to be punishable, need not be injurious to health. (*Bishop Auckland* v. *Bishop Auckland*, 10 Q.B.D. 138; *Banbury* v. *Page*, 8 Q.B.D. 97; *Malton* v. *Malton*, 1867, 4 Ex.D. 310; *Houldershaw* v. *Martin*, 1 T. L. R. 323; *see* Lumley 76 *b*, and 119.) I suppose bad drains at the seaside are healthy; for all that they are nuisances.

113. **What Offences Punishable.**—These may be seen by reference to my schedule and to the sections. Section 41 does not apply to *structural defects* (*Fulham* v. *Solomon*, 1896, 1 Q.B. 198). Nor do sections 47 (2) or 49. But sections 47 (3) and 94 do apply to these.

114. **Entry.**—(1) *To inspect nuisances.* Under section 41 (*see* that section, which applies only to method A). As to all nuisances power is given to inspect (and abate) under section 102 (and *see* sections 103 and 104). The official (he need not be the "inspector of nuisances") must, if he cannot enter by agreement, apply to a magistrate, showing reasonable cause (*Vines* v. *N.L.C.S.*, 63 J.P. 244). Section 103 lays down the penalty for refusing to admit the official after this order. The inspection may be either to examine whether nuisance exists, or whether an abatement or prohibition order has been carried out, or (2) *To*

abate (under the same section 102). Section 305 does not apply. Nor does section 306, for a different penalty is there laid down (*see Bird* v. *St. Mary Abbott's*, *ubi supra*).

Under section 92 it is the duty of the authority to inspect and abate.

Section 104 shows who are liable. (And *see post.*)

115. Notice to Abate.

As to form (no notice is required under method C (section 47 (3)), and my remarks do not apply to method B (section 47 (2)) with its 24 hours' notice). The notice must specify the necessary works (*see* Schedule IV. Form A, of P.H.A.; *R.* v. *Wheatley*, 16 Q.B.D. 34; *R.* v. *Horrocks*, 82 L. T. [N.S.] 767; Lumley, p. 132); (*Millard* v. *Wastell*, 1898, 1 Q.B. 342, not *contra*, as it applies only to smoke nuisances). It must also be framed according to the facts of each case (*Wood* v. *Widnes*, 1898, 1 Q.B. 463; contrast *Frost* v. *Fulham*, 83 L.T. 720).

As to length of notice.—Under section 41 it is sufficient to require abatement "forthwith," *i.e.* in reasonable time (*Thomas* v. *Nokes*, 6 Eq. 521). Under section 47 (2) and section 49, 24 hours' notice; under section 47 (3), no notice; and under section 94, what notice the authority think fit (Max. 21 *b*, 285 *b*) must be given.

116. Form of Justices' Order to Abate.—The form of this order is found in Schedule IV., form C, of P.H.A., and in the schedules of the Summary Jurisdiction Acts; and *see Goose* v. *Bedford*, 21 W.R. 449. It must specify what is to be done (*R.* v. *Horrocks*, *ubi supra*), and it can specify any works which the magistrate considers necessary (Lumley, p. 132; *ex. p. Whitchurch*, overruled). If the magistrate specifies structural alterations, this would, I suppose, show that he is purporting not to act under sections 41, 47 (2), and 49, which do not apply to such (*see* par. 113). The schedule form of P.H.A. does not show under what section he acts. (For an order in which the defendant and the authority were each charged part of the expenses, *see Booth* v. *Owen*, 66 J.P. 357.)

117. Who Liable.—The column marked "Person liable" in my schedule (par. 109) shows this clearly. Under section 104, the costs and expenses of carrying out the powers of the Act as to nuisances are chargeable against the offender (including the owner if he is to blame). No person liable need pay more than one year's rack-rent. These payments are apportioned against the guilty parties. The money can be collected in the first instance from the occupier, who, if he is innocent, need not pay a sum exceeding the amount of the rent then due to his landlord, and can deduct that sum next rent day. All this, however, is to be subject to the terms of the lease, (as to which *see Digest of Law Reports*, 1891–1900, col. 1165 (6)).

If the occupier has been legally compelled by law or by reasonable fear of it to do the work at his own expense and the landlord is liable, he can recover from the latter (*Gebbart* v. *Saunders*, 1892, 2 Q.B. 452; *Andrews* v. *St. Olave's*, 1898, 1 Q.B. 775; *Cree* v. *St. Pancras*, 1899, 1 Q.B. 693; *North* v. *Walthamstow*, 67 L. J., Q.B. 972). But not if he does the work *quite* voluntarily (*Thompson* v. *Hawes*, 73 L. T. 369).

The reader may refer to Lumley 127, 128. (*A.-G.* v. *Tod Heatley* (1897, 1 Ch. 650) decided that the owner must prevent his land from becoming a public nuisance.)

By declaring expenses (*under section* 41 *only*) to be private improvement expenses, the authority may (subject to the lease) throw liability (at least primary) on the occupier.

As between reversioner and tenant for life the corpus is liable (*Lever, in re*, 1897, 1 Ch. 32).

The architect's liability has already been considered in Lecture II. ("Rights as to Sewers") (*see Addendum*, 1902). Section 255 also bears on the question of liability.

118. Expenses.—These are recoverable like any other "expenses" in the P.H.A. (*see* "Subsequent Alteration," par. 94), with this difference, that *nuisance expenses* may also be recovered in the High Court or County Court, under section 104, which lays down no conditions to their jurisdiction. Only under section 41 (method A) can nuisance expenses be declared private improvement expenses. (As to the effect of doing this *see* par. 94.) In method E expenses can only be recovered on the second summons (under section 98).

119. Penalty.—A penalty (*see* my schedule) is recoverable under all these methods except D (section 49), and so makes the offences punished by A, B, C, and E criminal matters. The practice as to these must be sought in Lumley and in Stone. If the authority *think* their remedy before justices inadequate, they may proceed in the High Court; and they may proceed in the County Court (i) if the expenses (not including penalty) do not exceed £50, and (ii) provided also there are any expenses. My reasons for thus stating (i) and (ii) are that, in my opinion, a penalty is not a "demand" under section 261. Of course the same Court would try both penalty and expenses.

120. Who Can Act.—I do not profess to deal with all the complex law on this point. The authority, if it is an *urban* authority, can delegate their powers to a committee, under section 200, as we saw in the second part of this lecture. Except where power is by the Act expressly given to an official, he must not act on his own *initiative* (Lumley 126 on section 94).

The five methods vary in the powers they give to officials. Under A (section 41) the inspector can enter, examine, and report; but the local authority (acting on his report or not, as they please) give the notice (doubtless through their clerk). In sections 47 and 94 (methods B, C, and E) no mention is made of any official; while in section 49 (D) the inspector seems to have matters entirely in his own hands. In section 102, which gives right of entry, the local authority or any officer has power to apply to the magistrate.

We deal later (par. 124) with "aggrieved persons," and constables acting under sections 105 and 106, to see how far the law laid down, *ante* and *post*, applies to them.

Now we come to your Defences. (Counter-remedies, and Appeals against the authority and others, are dealt with in subsequent paragraphs.)

121. **Defences.**—(Pars. 131 and 135, though referring to common law, might be referred to.) (1) *Local authority to blame*, in that they supplied insufficient sewers. You must prove that they were in default, and that this default caused the nuisance. (*Ainley* v. *Kirkheaton*, 1891, 60 L. T. Ch. 734; *Brown* v. *Dunstable*, 1899, 2 Ch. 378; *Wycombe* v. *Parsons*, 1894, 2 Q.B. 780; and *see Molloy* v. *Gray* and *Kinson* v. *Poole*, quoted in my previous lecture on "Rights." *See* also Lumley, p. 121 and p. 129, middle.) How far this defence would avail against the aggrieved person or constable acting under sections 105 and 106 is considered later (par. 124).

(2) *Limitations.*—As to penalties, the times after which proceedings are barred may be gathered from the books; as to expenses, they appear from my remarks on "Subsequent Alteration," but I may add a few points. *As regards penalties.*—These are payable, and the time limit therefore begins to run, when the matter of complaint arises; but, if the offence continues, this would push further and further forward the date when recovery would be barred. Under section 96 (method E) the limitation time as to penalties runs from default in obeying the notice (Lumley, p. 133 *g*). *As regards expenses.* (Summary recovery.)—If the abatement works can be called works of private improvement, then time does not begin to run till reimbursement has been demanded. But if not, then it runs from when the expenses were incurred.

(3) *Prescription.*—If these offences are also a public nuisance (par. 131) at common law this plea is bad. At any rate, prescription to pollute air is hard to prove. In one case a man was reported to have "enjoyed" a mixen for twenty years, but he was held liable as he could not prove that he had extended the enjoyment to the plaintiffs for all that time (*Flight* v. *Thomas*, 10 A. and E. 590; 8 L. J., Q.B. 337). So you see that, whether we are too generous or too stingy with our odours, we shall fail.

(4) *Abatement by defendant would cause trespass.*—As to how far this defence will avail, *see* Lumley, p. 130, quoting *Parker* v. *Inge* and *Letterkenny* v. *Collins*.

(5) *Offence already punished.*—This would be to plead section 111, but the punishment must be of the same class. The offender might have to suffer expenses, damages (by private plaintiff), injunction, *and* either indictment *or* penalty. The principle is shown in *Hall* v. *Nixon*, L. R. 10 Q.B. 152. (There is no appeal against acquittal, *see* later.) I do not think that double expenses or a double penalty could be recovered by proceeding against him by the penal and subsequent alternative methods.

(6) *The foul odour by itself would not be a nuisance.*—This is no defence (*Barnes* v. *Norris*, 41 J.P. 150), any more than it would be in private actions or public indictments (*q.v.* later pars. 131 and 134).

(7) It will be no defence that the place from which the drain proceeds is not a *house* or building.

122. **Remedies Against the Local Authority.**—This is to carry the war into the enemy's own country. You may punish the authority (i) for taking unjustifiable proceedings; (ii) for misfeasances. As to (i), *Barnett* v. *Eccles*, 1900, 2 Q.B. 423, may be referred to. The Local Government Board, on appeal under section 268, which applies to all five methods of proceeding for nuisances, may award compensation. Further, where any proceedings had no ground, the magistrate would acquit with costs. Add to this that, in any case, if the authority forced you to do their duty, you could recover. (As to the amount of compulsion, *see* sub-par. 2 of par. 96.) We noticed in "Form of Order" that the magistrate in *Booth* v. *Owen* charged part of expenses to plaintiff and part to defendant. As to (ii) misfeasance—that is, actual wrongdoing and damage in disturbing your drains, &c.—you could recover damages (*Robinson* v. *Workington*, 1897, 1 Q.B. 619; 61 J.P. 164; *Dent* v. *Bournemouth*, 66 L.J. Q.B. 395); and section 41 (as to method A) requires the authority to reinstate if no nuisance is found. But no damages can be recovered against the authority for mere nonfeasance, *i.e.* negligence in not supplying proper sewers (*Touzeau* v. *Slough*, 60 J.P. 103).

123. **Appeals.**—(i) *From local authority to magistrate.*—This is another way of saying "What discretion have the authority?" Under section 41 (*see* Lumley 77 *k*) there is no such appeal, nor is there under section 49; but the authority are not irresponsible under section 47, nor (in method E) under section 96, for they must prove the facts. Again, under section 102, as to entry to inspect or abate, the magistrate is the judge. The authority has discretion, as to length of notice to abate, only under section 94 (method E). (*See* last sub-par. of par. 115.) Even when the authority have a discretion, they must exercise it according to the rules laid down earlier in this lecture.

(ii) *From authority to Local Government Board, under section* 268.—There is an appeal as to all five methods.

(iii) *From magistrate to Quarter Sessions, under section* 269.—The practice was dealt with when I discussed "Subsequent Alteration." (*See* also Lumley, 397 &c.). Under section 99 proceedings are stayed pending the appeal.

(iv) and (v) *From magistrate or Quarter Sessions to High Court,* on case stated (*see* section 269).

(vi) From *High Court* there is an appeal under method D (section 49) (only by leave); but under none of the others, since they are all criminal processes.

For this same reason the complainant cannot appeal against acquittal. (*R.* v. *London J.J.* 25 Q.B.D. 357.)

124. **Aggrieved Persons and Constables under Sections 105 and 106.**—Do all these remarks apply to complaints by aggrieved persons or constables? They apply to *aggrieved persons*, except that Defence No. 1 would be unavailable, since the aggrieved persons are, by section 105, given "the like" remedies. This is equivalent to incorporating, *mutatis mutandis*, all the enactments giving powers to the authority, and not to placing the aggrieved person in their shoes. As to *constables* proceeding under section 106, all the above remarks, including Defence No. 1, apply, since they can only institute proceedings "which the defaulting authority might institute." Except, then, as excepted above, all these complainants have the same powers similarly conditioned as we have seen the local authority to possess.

125. **Parish Council.**—I may add, in conclusion, that a Parish Council may, under the Local Government Act 1894, cap. 73, section 8 (1), subject to conditions, abate nuisances.

126. **Other Methods.**—All these powers of proceeding are by section 111 cumulative on other methods, provided that the defendant is not "punished twice for the same offence" (*see* Defence No. 5), and provided also that the facts allow it. These methods are: proceedings by indictment or injunction for *public nuisances*, and proceedings by action to obtain damages or injunction for *private nuisances* (including public ones which also specially affect private individuals). To consider public nuisances first.

127. **Public Nuisances.**—As to these I will consider what publicity and what offensiveness is required to constitute the offence, who are liable, and what defences the accused would have.

128. **Publicity.**—Nuisances to a highway (*R.* v. *Neil*, 1826, 2 C. & P., 485), or to a populous neighbourhood near a highway (*R.* v. *Papineau*, Str.), have been held to be public nuisances, but not a nuisance which affected only three houses (*R.* v. *Lloyd*, 1803, 4 Esp. 200).

129. **Offensiveness.**—A public nuisance includes many detractions from comfort not included in "nuisances" under the P.H.A. Thus "Charley's Aunt," having crowded the streets with an expectant audience, not necessarily offensive to the nose, was held to be a public nuisance.

For the purposes of an *indictment* in *R.* v. *Davy*, 1803 (*ubi supra*), it was held that damage to health or rendering dwellings uncomfortable must be proved, and that mere damage to furniture or discomfort caused to persons by sulphurous fumes does not constitute a public nuisance; but, in 1823, *R.* v. *Neil* (*ubi supra*) upset this doctrine. (*See* also *A.-G.* v. *Cleaver*, 18 Ves. 211.) In *A.-G.* v. *L. & N.-W. R. Co.*, 1900, 1 Q.B. 78, an information was successful though no injury was proved, since the company had infringed a statutory requirement as to level crossings. In our case the drain owner is, as we saw, forbidden by the P.H.A. to have an offensive drain. I think, therefore, that if he comes under the P.H.A. he will, if the odour is public, be liable for public nuisance.

For the purposes of a public *injunction* it was decided in *A.-G.* v. *Sheffield Gas Consumers* (3 De G. M. & G. 304), and 19 Ruling Cases (where the whole matter is discussed) p. 273, and in *A.-G.* v. *Cambridge Gas Consumers* (4 Ch. 71, and R.C. *ibid.*), that an injunction can only be obtained if there is a continuous injury, or if irreparable damage is threatened. On the principle stated above, damage to health or to real property need not be proved.

130. **Who liable?**—The owner or any other person can be indicted, if morally responsible, but not otherwise (*R.* v. *Pedley*, 3 L.J. M.C. 119, commented on in *Rich* v. *Basterfield*, 4 C.P. 783, at 805, and followed by *Todd* v. *Flight*, 9 C.B. [N.S.] 377, 389). A man may be responsible for doing acts which would naturally lead to nuisance and for, so to speak, winking at the foul odour. (*See* Smoke Nuisance cases, &c.)

131. **Defences.**—(Pars. 121 and 134 may be compared.) The defence that the complainant is really the guilty party would be a good defence, as in P.H.A. nuisances (par. 98).

As to the plea that the odour by itself would not be a nuisance, *R.* v. *Neil*, 1803 (*ubi supra*), decides that this is unavailable, though *R.* v. *Medley* (6 Car. and P. 292) (a later case in 1834 as to fouling water) contradicts this. Reading the two cases and remembering that there is not in our case any "bread and butter" plea (*see* later) as in *R.* v. *Medley*, I think that all contributors to the nuisance could be punished, doubtless in proportion to their offence, for otherwise the consequences to public health would be too fearful to contemplate.

There can be no plea of prescription (Lumley 49), and there is no limitation to the right to indict for public nuisances or, if they continue or recurrence is probable, to the right to obtain an injunction. The place from which nuisance arises need not be a house or building, nor would the "bread and butter" plea or any of the other defences held inapplicable to private actions for nuisance avail here (see later, par. 134).

With private actions for public nuisances I deal in par. 133.

Private Actions for Private Nuisances.

132. **What Injury gives Cause of Action**—(i.) for damages, (ii. and iii.) for injunction?

(i) In order to obtain *damages* there must be some reasonable amount of damage to comfort.

According to *Scott* v. *Firth* (1865, L.R. 1 Ch. 66) (noise from vibration), where the "bread and butter" plea weighed in defendant's favour, as it would not in ours, plaintiff must prove real and substantial damage.

The cases of *Lilywhite* v. *Trimmer* (1867, 36 L.J. Ch. 525) (fouling water), and *Crump* v. *Lambert* (1867, 3 Eq. 409) (fouling air), decided that trifling damage was enough. In *Wood* v. *Waud* (1849, 3 Ex. 748), it was held that, when water was fouled, there was a cause of action for damages, though no perceptible injury had been done. The reader may refer to *Walter* v. *Selfe* (20 L.J. Ch. 453) (a brickburning case), and to *J. Lyons* v. *Wilkins* (1899, 1 Ch. 225).

On the whole, then, I think that some reasonable amount of damage must be shown where the plaintiff seeks damages for pollution of air by bad drains; but that, on the analogy of public and P.H.A. nuisances, injury to health need not be proved.

(ii) To obtain an *injunction* when there is *present* nuisance, I think that if the foul drain is a P.H.A. nuisance or likely to become chronic, such an injunction can be obtained. It was held that the infringement of a statute was, without proof of damage, sufficient cause for injunction in *A.-G.* v. *Cockermouth* (1875, 18 Eq. 172) (water), and, even where private water rights only were infringed, it was held in *Crossley* v. *Lightowler* (1867, 2 Ch. 478), that no damages need be proved, since there was probable damage, viz. the danger that defendant would obtain a prescriptive right.

Failing these pleas for plaintiff, he can succeed by proving damage to either property *or* person (in spite of *St. Helens S.C.* v. *Tipping*, L. R. 1 Ch. 66) as regards either health *or* comfort (*see ante*); but such damage must be more than trifling. (*Lilywhite* v. *Trimmer* (*ubi supra*) 1867 (fouling water). *Crump* v. *Lambert* (*ubi supra*) 1867 (fouling air). *A.-G.* v. *Gee*, 1870, 10 Eq. 131 (fouling water). *Fletcher* v. *Bealey*, 28 Ch. D. 688 (fouling air). *Ridge* v. *M. R. Co.*, 1888, 53 J.P. 55 (fouling air or water).)

(iii) To obtain an injunction where *no present damage*. This is called a "*quia timet*," and *Crump* v. *Lambert* (*ubi supra*) and *Nixon* v. *Tynemouth* (1888, 52 J.P. 504) may be referred to.

Private Actions for Public Nuisances.

133.—These may be taken by the local authority (*A.-G.* v. *Logan*, 1891, 2 Q.B. 100) or by individuals. The plaintiff must prove particular, direct, and substantial damage, either to person *or* property (*Benjamin* v. *Storr*, 19 Ruling Cases, 263, 269); (and *see* Max, 568–583, and Lumley on section 111 P.H.A.).

Further Questions as to Private Actions for Private or Public Nuisances.

134. **Who Liable?**—*Primarily* the occupier. *Russell* v. *Shenton* (11 L.J. Q.B. 289) (non-repair of sewers).

135. **Defences.**—(Pars. 121–131 may be compared.) In addition to defence of no nuisance, and that defendant not the guilty party, and to technical defences, the defendant may plead:—

(1) That the odour, apart from odours occasioned by others, is not a nuisance. This is a bad defence (unless the co-operative odour springs from a joint receptacle which is a "sewer"), for the bad smell might be the "last straw" (*Crossley* v. *Lightowler*, 1867, *ubi supra*) (fouling water), and to hold otherwise might be to let defendant obtain a prescriptive right under cover of the others, who might cease their nuisance some day (*Wood* v. *Wand*, 1849, *ubi supra*) (fouling water). (I do not quite see the force of this argument, at least as applied to our case.) So held in *Walter* v. *Selfe* (1851, *ubi supra*) (brickburning); *Crump* v. *Lambert* (1867, *ubi supra*) (fouling air); *A.-G.* v. *Leeds* (1870, 5 Ch. 583) (fouling water); *Blair* v. *Deakin* (1887 [W.N.] 148, 57 L.T. [N.S.] 522); Lumley, p. 50 (as to fouling water).

(2) Prescription may be a good defence (*Wood* v. *Waud*, *ubi supra*). But could it be proved? (*See ante*, par. 98, same defence as to P.H.A. nuisances.) If the extent is too limited, then the prescription might be so limited as not to bar the plaintiff; if too extensive, the nuisance might be a public nuisance and prescription impossible even, I think, as against private individuals. But who would desire to endure a lifelong smell in order to force it on others?

(3) All reasonable care to avoid nuisance. This is no defence if there is in fact a nuisance (*Napier*, 1893, 2 Ch. 588).

(4) That defendant came to the nuisance and not the nuisance to him. As to this *see St. Helens* v. *Tipping* (*ubi supra*). It is, I think, no defence.

(5) Nuisance ceased before writ or before trial. This is a good defence to an action for an injunction, but not to an action for damages (*Carr* v. *Bath*, and *Dunning* v. *Grosvenor*, 1900 [W.N.] 265); but costs might be payable.

(6) The "bread and butter" plea is inapplicable, for the smell of a household drain is not a necessary concomitant of trade, like the odours from a tanyard.

136. **Private Abatement.**—This may be allowed, subject to the question of trespass (*see Lane* v. *Capsey*, 1891, 3 Ch. 411); and *Scarborough* v.

Scarborough; *Parker* v. *Inge*; *Letterkenny* v. *Collins*, cited in Lumley, p. 130).

137. **Cost of Sewers.**—Is dealt with in my previous lecture (Pt. I., June 1901, p. 380, note (*s*)) as revised by *addendum* to it of 1902 (*post*), and par. 100.

138. **By-laws, Local Acts, and the P.H.A. Amendment Act.**—The reader is again reminded that almost all the law above laid down may be modified by by-laws or Local Acts, by the P.H.A. Amendment Act 1890 where it is adopted, and that none of my remarks apply to London.

139. **Conclusion.**—Thus we see that for the man who neglects his drains the P.H.A. and the common law alike have prepared pitfalls, viz. the penal method where, in an urban district, the house-drain (good or bad) is not authorised; the subsequent alteration method where in *any* district it is insufficient; and the nuisance method where there is nuisance, whether it proceeds from house, building, or field. Many of these weapons can be used together. (How far "cumulative" see par. 94 end, pars. 110, 126.)

If I was a medical man I could expatiate on the diseases (diphtheria, typhus, typhoid, smallpox, cholera, and lack of appetite) which would ensue from a bad drain.

Lawyer and doctor alike say "Mind your drains."

Note.—These lectures have been revised and added to for purposes of reference as a sort of *vade mecum* for architects planning a house.

The following index, referring to pars. as to subsequent alteration and nuisances, may be useful.

Discretions, 92, 103.
Who liable? 94 (sub-par. 11), 96, 117, 130, 134.
Limitations, 97, 106, 121; Def. 2, 131, 135.
Defences, 98, 121, 131, 135. (The defences do not profess to be exhaustive).
Appeals, 99, 105, 123.
Cumulativeness, 94 (last two sub-pars.), 110, 126, 133.

Notes.

(*p*) *Measurement of* 100 *feet* (par. 82).

1. Method investigated apart from the question of hardship.

Previously to 1846 the rule in every case was, to measure specified distances by the nearest available route (Max. 491; *Minge* v. *Earl*, Cro. Eliz. 212, and *Wing* v. *Earl*, *ibid.* 267), and so in Hawkins's "Pleas of the Crown," as to residence of "Papists" within ten miles of London (vol. i., c. 12, s. 16), and in *Woods* v. *Dennett* (2 Stark, 89), and *Leigh* v. *Hind* (9 B. and C. 774; 7 L. J. [O.S.], K.B. 313; 4 Man. and Ry. 597), in which rival trading was restricted by contract within a certain distance, the same rule was adopted.

In 1846 this rule changed as to many matters, of which, as I shall show, ours is not one. Thus, where the statute law had enacted that, to enable a man to qualify for a poor-law settlement, he must reside within a specified distance of his estate, it was decided in *R.* v. *Saffron Walden* (1846, 9 Q.B. 76) that, in future, distances must be measured as the crow flies, for otherwise, since new short cuts might at any time be made, or rivers hitherto impassable become frozen and therefore able to be crossed, a settlement might be good one day and bad the next, and this would cause great *inconvenience.*

This case was followed by two others, which added the further reason that to allow the method of measuring by the nearest available route would mean *litigation* (and witness fees for surveyors) in these cases (*Stokes* v. *Grissell*, 1854, 23 L. J., C.P. 141; *Lake* v. *Bull*, 1855, 24 L. J., Q.B. 273), therefore it was held that, when the Legislature gave County Courts jurisdiction within a specified distance, that distance was to be measured in an absolute straight line, as if the suitors could literally fly to the protection of the Court.

So again, from the same motives, where it was enacted that there should be no turnpike bar within a certain distance of a town, the distance was measured as the crow flies (*Jewell* v. *Stead*, 1856, 25 L. J., Q.B. 294).

Then in 1859 and 1872 came two cases, in which the Courts had again to decide how to measure distance in a contract against setting up a rival trade within a certain radius, and this time the Courts, on the above grounds of avoiding inconvenience and litigation from uncertainty, adopted the straight line or crow-fly method of measurement (*Duignan* v. *Walker*, 1859, 28 L. J., Ch. 867; *Moufflet* v. *Cole*, 1872, L. R., 8 Ex. 32), and this is now the proper method in such cases (Jolly on "Restraint of Trade").

I distinguish these cases on three grounds: (i) All adopted the crow-fly method so as to avoid uncertainty and change of distance from the opening of new routes, and there would be no such uncertainty in our case, for once the drain is duly led to the sewer there is an end to the matter, unless the owner is foolish enough to bring himself under section 23 as to insufficient drains.

(ii) Nor would the nearest *available* route method (as opposed to the absolute straight line) lead in our case, as in the above cases, to extra surveyors' fees as witnesses in lawsuits; for in any case there must be a survey. Nor can I see how it would favour litigation.

(iii) Again, the above cases did not sacrifice justice, whereas in ours to forbid a man to build because, *e.g.*, he cannot reach the sewer that lies just across a 99-foot river or above his house, would be most unjust, as we shall see.

These "crow-fly" cases are really in our favour, for inconvenience was considered. Hardship should be considered here. The Interpretation Act does not bear on the Public Health Act, for the former is not retrospective.

Moreover, there are positive instances in our favour. This crow-fly measurement is not adopted in the case of railway companies charging, as permitted and required, a penny per mile. If it were, fares from Hexham to Riccarton, or from Pickering to Whitby, would be cheaper.

Again, in *Balhard* v. *C. of S. London* (54 *J. P.*, 135) distance was measured according to available route, for "nearest" was there held to mean nearest available, and a sewer, which was very near as the crow flies, and which could not be reached owing to intervening private alien land, was held not to be "near." (In the Metropolis Management Act, 1855, section 75, the sewer had to be "near," though this was not so in the P.H.A. 1848.) In *R.* v. *Saffron Walden* the Judge hints that, had his decision suggested trespass, the crow-fly method might not have been adopted.

Again, the spirit and intention of the section (note *j*, 4) favour the insertion of the words "by the nearest available route," and of "available" before "sewer." It allowed cesspools where the sewer was at a greater distance than 100 feet, so as to save us the expense of making a long drain.

Now if a man must get an easement of pipe-line from a reluctant neighbour, or make a boring through a rock, or lay a pipe across the bed of a river 90 feet wide, simply because a sewer lies within 100 feet, where is the tenderness of the section for his pocket?

2. The argument from hardship.

We have to a certain degree considered "*hardship*," but we will now go further into the matter.

The hardship which would ensue from not considering the availability or otherwise of the sewer should force the Courts to consider it.

True, the Legislature would not be asking us to do the impossible, for nothing is easier than not to build at all, and even a by-law, which, unlike a statute, has to undergo the stringent test of reasonableness, can impose conditions to building which may in certain cases render building impossible. Thus in *Hendon L. B.* v. *Pounce* (61 L. T., 465, at 467 top left), a by-law which required new streets to be of a certain width was upheld, though owing to the narrowness of the building land the owner had no room for houses and streets as well, unless he cut off a piece of his neighbour's land. This is done every day with regard to building over yards. And see *Tunstall T. T.* v. *Lowndes*, 20 J. P., 374. (*Simmonds* v. *Malling*, 1897, 61 J. P., 502; 77 L. T., 341, is not in point, as it did not apply to new cesspools, and so did not prevent building.) (*Waite* v. *Garston*, 1867, L. R., 3 Q.B. 5, is against the view that an impossible condition can forbid building, but that case would not help us, for the by-law was *ultra vires* also.) The reason for the decisions in the Hendon and Tunstall cases is plain. The Legislature required wide streets, and cesspools well away from houses, and to allow a man to build a narrow alley or to place a cesspool near a house because he built without sufficient land, would be to sacrifice public health to private money-making, when the Act had plainly intended to restrict the latter in favour of the former.

For all this I think that, though we could not plead that we were being asked to do the impossible, we could plead hardship in being forbidden to build except on conditions which were not only impossible, but absurd, unfair, and unnecessary. Thus A, who has an available sewer 101 feet from his site, can use a cesspool, while B, who has a sewer 99 feet across a river or at the other side of his enemy's land, or on the other side of a valley or dip which he would have to bridge, or above his own ground floor, a sewer which is therefore either miles away or practically non-existent, must get to it somehow or leave his house unbuilt! Such an idea revolts against all common sense.

Again, these hardships would not be merely rare and sporadic, but would occur in thousands of cases over that vast area ruled by section 25, or sections similar in this respect in other Acts.

Thus the case meets the two conditions laid down by the Courts as to what hardships will move them to adopt a possible alternative construction so as to avoid hardship.

The Courts will construe a statute with this object (*see* cases under "Statute" in *Dig. of English Case Law*, and *see* Max. 399, Chap. VIII. 264, &c., Section II. and 530–533, &c., and Chap. X., Section II., to 401*b*. *Contra*, 368, 369, 381–383*a*, 385, &c. No advantage is gained by examining these cases; they all lay down the same rather vague general rule, and apply it to cases differing from ours. Note also the cases above in which the crow-fly measurement was adopted in order to avoid *inconvenience*. *A.-G.* v. *Birmingham*, 4 K. & J. 528, 6 W.R., 811, rather favours private rights than otherwise.)

But there are two conditions. (1) Slight hardship (ours is not slight) will not be considered—*In re Hall* (21 Q.B.D., at 141 bottom), *In re Warkworth* (9 P.D. 20); *R.* v. *Overseers, Tonbridge* (13 Q.B.D., 342)—unless it is absurd too (as ours is). The Judges would stretch the statute in case of a great hardship. Small hardship: small stretch. Great hardship: great stretch.

Again (2), where public interest is against allowing exceptions (it is not against exceptions in our case, as we saw in A and B's case), hardships must also be common if the Judges are to consider them. *Williams* v. *Roberts*, 7 Exch. (W. H. & G.), 628; *Miller* v. *Solomons*, 21 L. J. Ex. 192, 193, 200; *Young* v. *Leamington*, 8 Ap. C., 527. (Ours would be common.)

One more argument. An attempt to get to an unavailable sewer might lead to great nuisance in many cases. Suppose, *e.g.*, I did try to lay my drain under a river or down and up a valley in order to reach the sewer, I should have a most insanitary curve. The Act could not have intended this.

The surveyor might argue that an earlier and corresponding statute had expressly inserted words excusing connection with a sewer at a higher level (I allude to the 73rd section of the Metropolis Management Act of 1855), and that since our later section omits (note *j*, 1) this express excuse, it did so purposely and did not intend it to be pleaded. My answer is that the 73rd section did not correspond to ours, since it deals with old houses and the subsequent alternative method for "insufficient drains." The 75th, which does correspond to ours in that it deals with the penal method as to new houses, omits such an express excuse. Therefore the argument from *contrast* fails.

Then the surveyor might turn round and say that on the *analogy* of section 75 we have no excuse from the height of the sewer, since it is plain that under section 75 M.M.A. new houses were not to plead that excuse, but, on the contrary, were expressly forced to raise their levels. That is so in London but not elsewhere, for we are not bound by the London Act, which may be suited to London. Where the obstacle is intervening alien land, Londoners also are excused (*see* Balhard's case, *ante*). Further, it would be unjust, as section 73 of the London Act recognised, to make *old* houses drain into a sewer above their level, and if in our Act new houses must do so, then old houses must do so too, for section 23 of our Act, which deals with old houses, does not contain any express excuse in such cases.

So the argument from *analogy* fails.

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